

# THE BRICKBUILDER

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## THE BRICKBUILDER.

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### ADVERTISING.

Advertisers are classified and arranged in the following order:—

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Advertisements will be printed on cover pages only.

THE habit of casting one's eye ahead and trying to measure the possibilities of the future is one which we should be sorry to alter. The perennial hope which makes us see the brightness of coming days makes life happier and longer. Certainly, every one interested in architecture and building can now look ahead with the utmost confidence, for it is many years since the prospect was on the whole so encouraging as it is to-day. In our editorial capacity we are neither Democrat nor Republican, and we, consequently, do not undertake to ascribe all the woes of the country to one party and all the prosperity to another, but we do know, however, that the election is safely passed, the country is free to attend to business for a time at least, without the disturbance of politics, and we can hope for all sorts of good things in store from the generous hand of 1901. Reports from all over the country indicate a very substantial activity in all the building lines, nor is this activity of the kind which keeps people busy merely earning expenses. Never before, apparently, were there so many large opportunities and great expectations nearing realization. Architecturally, we believe the country is entering upon an era of great building enterprises, in which both the architect and the builder will have opportunities in extent and in quality sufficient to satisfy all our desires. People with means to invest are now more willing to spend money than they were a decade ago. The commercial value of mere beauty is more thoroughly appre-

ciated, and the buildings which are now being erected or planned show how greatly the architectural possibilities of this country have developed since what might be termed their first awakening in 1876. And with all the prospects of work and money there comes a deeper, more self-respecting professional feeling among architects and builders, of which we have seen some indubitable manifestation in the last convention of the American Institute of Architects. Life is real and earnest with the American art of the present day, and the future has nothing but hope to show. We have passed the constructive stage, that is to say, we no longer need to be taught elemental lessons of construction, stability, or the proper use of mere material. We are even in a measure growing out of the necessity for learning our fundamental lessons in composition and design, and equipped for practice and theory, for design and business management as never before, the coming year ought to witness a most satisfactory and healthy manifestation of American architecture.

THE address of Mr. Robert S. Peabody, as president, before the recent convention of the American Institute of Architects, is of a kind which ought to make every member of the organization feel proud to be in such good company. It strikes the right kind of note to bring out the best feeling between the Institute as a whole and its members, and to show the truest and most helpful side of the profession. The address has been quite fully reported, but we cannot forbear a few quotations: "One of the greatest charms of our profession is the joyous atmosphere of youth and buoyancy and hope in which we work. The art itself is young with us." "We are all looking forward and not back." "We work together in the full belief that even if the future of architecture does not lie with us, yet, at least, it is to have a great future here. Everywhere the pace set is that of youth, and the rapidity of our building operations makes our work so arduous and full of strain that the strong and vigorous only survive. There are no old architects among us. If an architect last at all, he lasts young."

That a man who occupies the position Mr. Peabody does, with the large business interests constantly passing under his immediate direction, can express sentiments of this kind is the most eloquent testimony to the high standard which the best of our architects have set for themselves.

THE BRICKBUILDER has, from time to time, instituted among its readers competitions in design for various small problems. These competitions have

been undertaken not merely to encourage our younger readers by offering stimulating prizes, but with a view of deliberately aiding in the developing and extension of good architecture in materials in burnt clay. Our problems have not been chosen at random, but have been such as we have felt could be readily adapted to the materials named. Appreciating, however, that the idea of a competition is not always attractive to a man in the busy course of his profession, we have asked a number of our leading architects to prepare contributions to our pages, showing their own ideas on some of the problems which were selected. The first series, "A Village Bank," and the second series, "A Village Inn," both chosen for this year, are extremely practical, and are typical of a large class of structures, which are springing up in astonishing numbers all over this country, and to which the architectural profession is yearly applying a larger measure of study and intelligent design. The past half century has been characterized by an enormous growth of our large cities and a corresponding development of the suburbs. It is precisely in these suburbs that we must look for the multiplying of such structures as these series are intended to call out. We feel that the thought which these contributions will represent will go a long way towards making possible the realization of a straightforward, artistic treatment of those minor problems which ought to be so fascinating, but which, unfortunately, are but too frequently neglected.

"THE BRICKBUILDER" COMPETITION. VI.  
AN ENTRANCE TO AN ART MUSEUM.  
PROGRAM.

THE design is to provide for the entrance porch of a large metropolitan art museum, of the nature of the South Kensington Museum, London. The entrance will be in the center of a perfectly blank wall, permitting of an individual treatment without reference to the design of the building as a whole. The entrance should be recessed 10 ft., and should allow for four doors each 3 ft. wide, besides such transoms or side lights as are incidental to the character of the design. The entrance leads to the first floor, which is supposed to be at an elevation of 8 ft. above the street, a flight of steps leading thereto projecting from the line of the building. Any treatment of columns, pilasters, or buttresses is to project from the building line. The height of the first story is to be 20 ft. in the clear. The design is to be such as is adapted to working out in burnt-clay products.

**DRAWINGS REQUIRED:** An elevation drawn to the scale of  $\frac{1}{2}$  in. to the foot, together with a section taken at right angles to the front, and a sketch plan at a scale not exceeding  $\frac{1}{8}$  in. to the foot; these drawings to be in black ink, with no wash work, on one sheet measuring 20 ins. wide by 12 ins. high. The drawing is to be signed by a *nom de plume*, or device, and accompanying the same is to be a sealed envelope with the *nom de plume* on the exterior, and containing the true name and address of the contestant.

Drawings are to be delivered, flat, at the office of THE BRICKBUILDER, 85 Water Street, Boston, on or before Feb. 1, 1901. For the three designs placed first, THE

BRICKBUILDER offers prizes of twenty-five, fifteen, and ten dollars, respectively. All premiated drawings are to become the property of THE BRICKBUILDER, and the right is reserved to publish any and all drawings submitted.

The competition will be judged by Mr. Edward Robinson, Curator of Classical Antiquities, Museum of Fine Arts, Boston.

THE SEVEN CHURCHES OF SAN STEFANO AT  
BOLOGNA.

IN the Piazza della Mercanzia at Bologna is one of the most curious groups of brick buildings in north Italy. A collection of seven churches, or shrines, built at periods as far apart as the fourth and sixteenth centuries, crowding and overlapping one upon another, without striking towers or façades, it presents a most interesting and historical picture of the progress of brick construction through the space of twelve centuries. The various buildings, which cover an area of only 250 ft. from east to west and 175 ft. from north to south, are grouped around a central court, or cloister, called the Corte or Atrio de Pilato. This courtyard, shown in the illustration, is a good example of early brick construction, and is said to date from the eleventh century. The font in the center bears an inscription consecrating it to the Lombard kings Luitprand and Hildebrand, the former of whom died in 744. The walls of the church of S. Sepolcro, which closes the west end of the court, are decorated with a very successfully restored ornamentation of colored brick laid in patterns, and the cornices are interesting and simple.

This church, or baptistery, of S. Sepolcro is a singular structure of the eleventh century, octagonal without and twelve-sided within, containing the tomb of St. Petronius. The roof is supported partly by large round piers and partly by slender columns, and the roof of the ambulatory is alternately divided into square and triangular compartments. From the opposite or eastern end of the court opens the church of S. Trinità, the east portion of which is the oldest part of the group, dating perhaps from the fourth century, when the temple of Isis gave way to the shrine of the new faith. South of the S. Trinità is an interesting cloister of two stories—that of the suppressed Celestine monastery. Adjoining the cloisters are two more churches, Della Confessione and S. Giovanni, of the eleventh and sixteenth centuries, respectively, the first being below the general level and serving as a sort of crypt to the second. Then there is the present main church of S. Giovanni di Crocefisso with a curious circular brick pulpit upon its façade, and finally to the north there is the seventh church of SS. Pietro e Paolo, an ancient basilica of the eleventh century, several times rebuilt and lately restored.

The entire group, huddled together, overlapping and projecting into one another, forms one of those curious vagaries of ecclesiastical architecture which are not uncommon in Italy, and which, while having no real merit as an architectural composition, serves to present a striking parallel of early detail in brickwork, which the student is likely to find fully as attractive as many of the larger monuments. It is a pleasure to know that the buildings are being carefully preserved and that a very skilful work of restoration is going on.



## The "Village Inn" Series. II.

BY WILSON EVRE, JR.

ALL the world over the "Village Inn" has been a source of pleasure and comfort to the traveler, and there is nothing that encourages travel so much, especially of the unconventional sort, as the number and quality of these inns.

In this country there are a few old taverns, but most of them have run to seed, and a good meal can seldom be obtained, and never one *al fresco*.

The impossibility of obtaining food in the open air in America is something which usually surprises foreigners. All of our summer hotels are equipped with miles of "piazzas" for sitting and promenading, but when the dinner bell rings, no matter how sultry the weather, or how magnificent the view, the "inmates" of these caravansaries are driven into the dining room to feast their stomachs on the massive ingredients of a Yankee "course dinner," their lungs on the vitiated atmosphere of the crowded room, and their eyes on expanses of plaster wall surface and gas fixtures draped in fly muslin. Why the eating of one's dinner in comfort in the free open air should be prohibited is another one of the mysteries which surround the life of the American people.

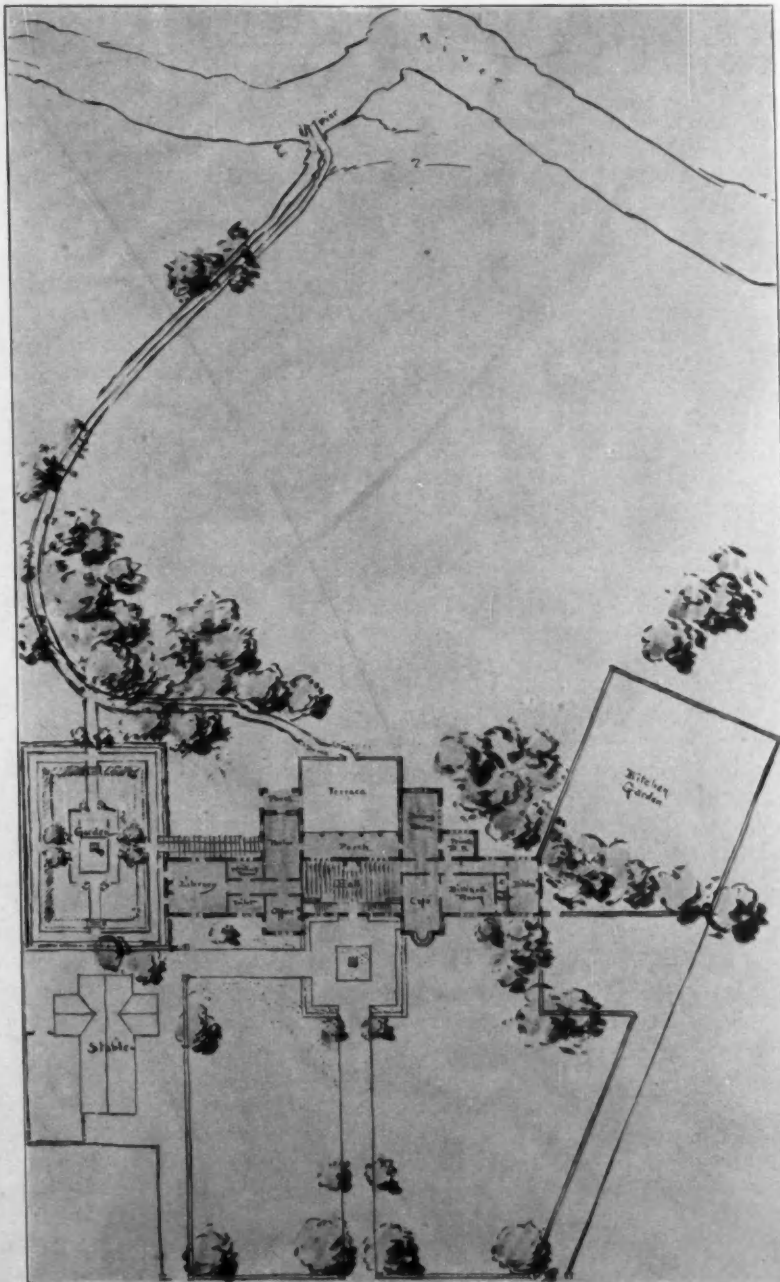
Although our summers are long and the heat intense, some arrangement for eating out-of-doors, as they do in the continental towns and villages, would be a much desired result.

Let one try to plan a summer day's trip into the country, and the difficulty of finding a comfortable place to spend the noonday siesta becomes appalling. In an American village inn, after having

eaten the dinner in the stuffy dining room, one has the choice of a seat on the dusty and glaring veranda, or a haircloth "easy chair" in the dismal hotel parlor; and while the drowsy moments of the summer noontide pass by, one can let his thoughts revert to the little green garden of a French *auberge*, with the grape-vine growing along the gallery, and the dainty *déjeuner* spread in the shade of the *terrasse*. It is, perhaps, neither possible nor desirable that the continental inns should be exactly reproduced in America, nor would the writer claim that all foreign inns are the delightful havens pictured in the foregoing remarks. He has abundant recollections of hostleries that were the opposite in every way—taverns like that described by Dickens: "Never were such labyrinths of uncarpeted passages, such clusters of moldy, badly

lighted rooms, such huge numbers of small dens for eating and sleeping in, beneath any one roof as are collected together between the four walls of the 'Great White Horse' at Ipswich." The point he desires to make is that in America the bulk of the village inns are deficient in beauty, comfort, and cuisine,—the three essentials of a satisfactory lodging-place. It is probable that the first and last of these qualifications will be found in most continental inns; the second cannot be so readily vouched for. That the art of daintily cooking and serving food has not yet been highly developed in our country is something for which the architect may escape blame; the reformation of our public houses from an artistic point of view is an object to which he may well devote his energies.

On the rivers, on the pikes, there are endless opportunities for such village inns in these days of bicycles, trolleys, automobiles, rowing, etc.



PLAN, A VILLAGE INN.

What delightful trips could be made if such conveniences were to be found at available distances, and how many people would take their holiday in this way, staying a few hours or days at each of these stopping-places either for the mere pleasure of traveling or on a sketching, driving, rowing, or walking trip! There are small books published in New England giving a great number of pleasant excursions on the various trolley lines in that part of the country. How much the attraction of such trips would be added to if one could stop in pretty parts of the country, be picturesquely and comfortably lodged, be able to dine out-of-doors, spend a cool night and have attractive views from your bedroom windows, instead of being obliged to make for the nearest town without fail and there lodge at the traveling drummer's hotel, which is hot and uninteresting, probably facing a dusty street, with poor meals and poorer service, and the bar room in full view and the chief feature of the place; and speaking of this, the apartment dedicated to the American bar is another feature which in our ideal inn is to undergo a transformation. The twentieth-century tourist will be willing to exchange the delights of the garish room, equipped with its cuspidors and red-hot stoves, with its long bar supporting the elbows of a dozen village loafers, for such a tap room as the author of "Pickwick Papers" describes, where in the open grate burns "a substantial matter-of-fact roaring fire, composed of something short of a bushel of coals and wood enough to make half a dozen decent gooseberry bushes, piled half-way up the chimney, and roaring and crackling with a sound that of itself would have warmed the heart of any reasonable man." . . . "A charming prospect of the bar . . . with delightful rows of green bottles and gold labels, together with jars of pickles and preserves, and cheeses and cold hams, and rounds of beef arranged on shelves in the most tempting and delicious array." In this tap room of our fancy we can ensconce ourselves in front of the fire and linger in peace over our hot punch after a tingling sleigh-ride, while the drummers and yokels can look elsewhere for the "stand up" potatoes to which they are accustomed.

As to the requirements of a village inn, it should first of all be unpretending; it should be low and rambling in character, for if it exceeds a certain limit of size, height, and accommodation it becomes a summer hotel.

It should have the very best stabling accommodations and service, the use of the stable being one of the principal features of an inn; it should have an old-fashioned flower garden and a good-sized kitchen garden; if the grounds adjoin a river or bay there should be a boat landing.

In my rendering of the problem I have placed the inn at a sufficient distance from the road to avoid the dust and traffic of the highway, and sufficiently near to this road to be plainly seen by passers-by.

I have arranged three entrances, the central driveway, over which is a swinging sign, leads directly to the main entrance of the house and turns in a fore-court.

At the extreme right is the tradesmen's entrance, the drive leading to the kitchen department and having a separate turn hidden by trees.

The stable entrance is to the extreme left, and leads to the stable as well as the fore-court by a connecting driveway. The kitchen and stable drives should be

walled or hedged, as it is not desirable to have this traffic in full view. The plan of the house itself has a central hall, to the right of which are the tap rooms, the public and private dining rooms, and the billiard room, service rooms, kitchen, etc. To the left of office are parlor, library, and writing rooms.

A porch and an open terrace looking south towards the river and opening from the dining room, as well as from other parts of the house, serve as a place for dining on summer evenings. A path leads from this terrace through the orchard to the garden gate; this garden is also entered from the library, the windows of which will be to the floor.

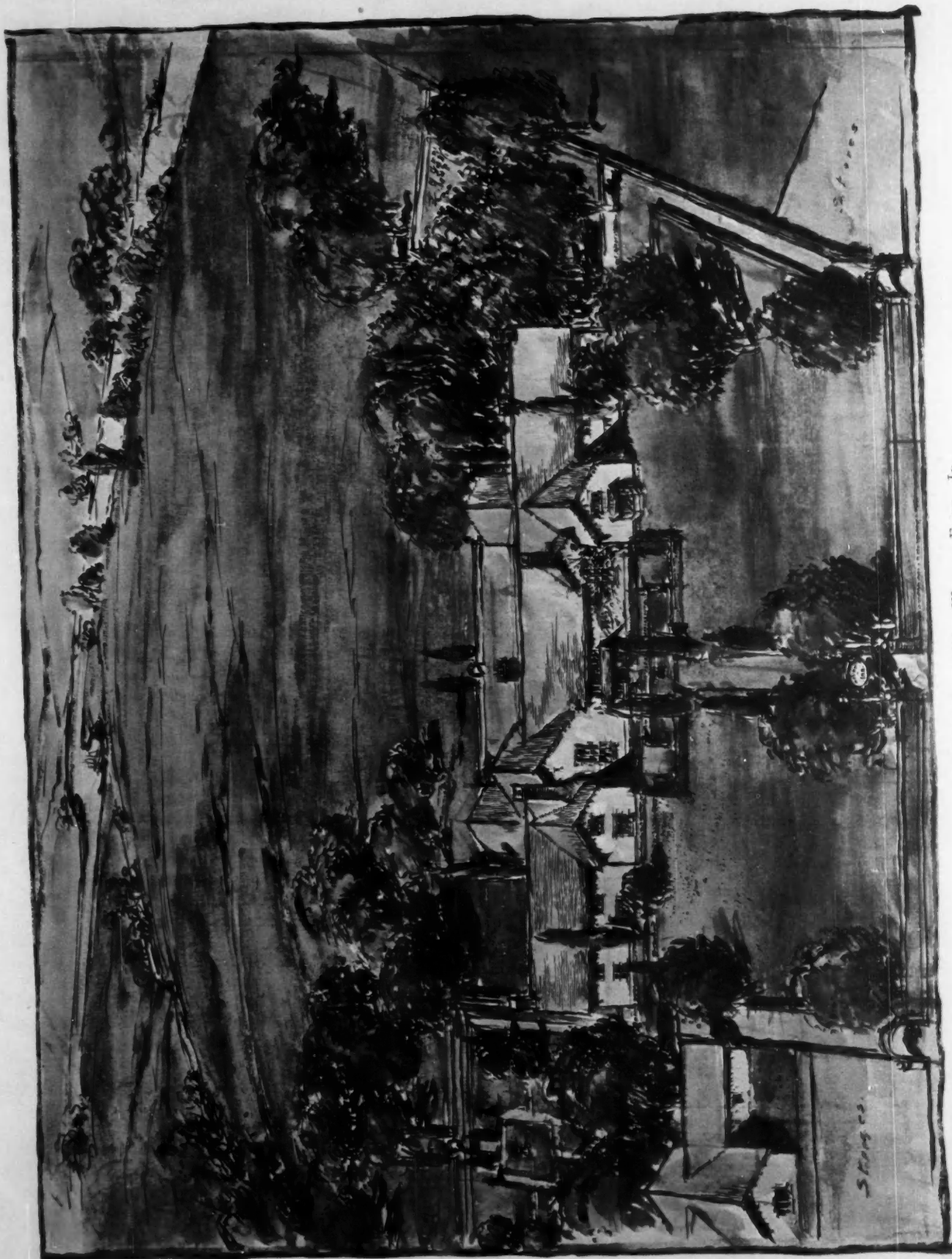
The second story, or bedroom floor, will have a moderate number of bedrooms, not enough, again, to place it in the class of a summer hotel, and ample servants' accommodation over the kitchen wing. Over the ground-floor porch there will be a second-floor porch for the use of the bedrooms.

There is enough room on the grounds for games, such as tennis and even golf, although this could hardly be expected at all stopping-places of this character, many of which would of necessity be much more limited in their surroundings; part of the basement could be used for a bowling alley and shuffleboard.

The material I would use in the construction of this inn is brick and rough cast; any expensive material, it seems to me, should be avoided, and cut-stone, elaborate detail or carving should not be used. These inns should not, to my mind, be playthings, for under this guise they would soon pass out of existence, as fads invariably do. They should be started on a good working basis with no frills, places that all classes of people can use, with moderate prices but good service, and though they should be cheaply and simply built, they open a field for picturesque treatment, which is almost unlimited.

As a matter of fact, the rotating wheel of time is fast bringing the American village inn into prominence once more. Before the days of railways, the stage taverns were the centers of the traveler's life, and many a quiet and grass-grown New England village, now inaccessible by steam train, was a center of activity in the '20's and '30's when the turnpikes were the nation's chief thoroughfares. The steam railroads drained these villages of their traffic, and for two or three generations they slumbered undisturbed, until with the advent of the bicycle, precursor of the trolley car and the automobile, the traffic of the city came out once more into the winding highways. Several inns of the one ideal class are now in existence in the vicinity of Boston, the proprietors of some of them having utilized ancient and picturesque or historic houses, shaded by great elms, and endowed with graceful dignity given by a century of usefulness. The growing fondness of our people for out-of-door excursions, as well as the passion which American femininity possesses for trolley-car riding, is bound to increase the demand for houses of this class, both for winter and summer resort. An historic as well as naturally beautiful location is worth seeking in order to attract the very desirable class who feel an interest in the early history of our country, and who would visit the spot for this, if for no other reason, and who would be glad incidentally of a quaint and attractive lodging-place.





A VILLAGE INN. WILSON ERVE, JR.

## Hospital Construction from a Medical Standpoint.

BY HENRY M. HURD, M. D.

Superintendent, The Johns Hopkins Hospital, Baltimore.

THE pioneer era in hospital construction when builders were satisfied to secure a maximum of accommodation for a minimum of expenditure has passed away. Stability of construction, convenience of arrangement, beauty of form, and a special adaptation of every portion of the hospital buildings to the best care of the sick are now considered essential for a good home for the modern hospital. The experience of the past quarter century renders it possible to make the following dogmatic assertions:—

I. General hospitals should be built upon the pavilion plan to secure the best arrangement of buildings, a free exposure to sun and air, the best form for subsequent addition and development, and, in short, the most favorable conditions for the evolution of the perfect hospital.

II. The material used for construction, other things being equal, should be brick with stone or terra-cotta trimmings or ornaments, as offering less expensive construction, larger openings for sunlight and air, increased protection against fire, drier and, consequently, more hygienic apartments, better opportunities to secure walls with air-spaces and room for heating and ventilating flues, and a higher standard of general construction than is possible by the use of any other material.

III. Stone is the most expensive building material for a hospital, because to secure fireproof construction or flues for ventilation or heating, the interior must be lined with brick. Walls constructed of stone are necessarily thick, and openings for light and air are thus diminished in size.

IV. Wood is wholly unfitted for the construction of a large hospital building or buildings, because such structures are frail, insecure, temporary, liable to destruction by fire, prone to become a breeding place and a refuge for vermin, and a nidus for germs of disease. Such buildings cannot be kept in a sanitary condition without great labor; they are expensive to keep in repair, and are liable to constant damage and deterioration from daily wear and tear; and, above all, they are always certain to be destroyed by fire.

V. Cage construction with steel and staff is unnecessarily expensive, and does not offer any advantages corresponding with the increase in expense.

Stone as a building material is undoubtedly capable of such handling as to furnish structures of higher forms of beauty, which may possibly be more fitting monuments to the memory of departed benefactors, but its expense renders it out of the question to build every part of a hospital of such high-priced material. Hence, whenever stone is used there is a tendency to build the exposed portions of a memorial chapel or of an administration building of stone, and to piece out less conspicuous portions with brick, as a cheaper and equally durable material. The remaining buildings are generally built of

brick. From the standpoint of consistent, uniform, and appropriate construction, it is preferable to have all buildings of the same material, as more pleasing and permitting upon the whole a higher standard of construction. Hence, a hospital built wholly of brick is preferable to one built partly of brick and partly of stone.

The experience of the past quarter century has equally demonstrated that the hopes engendered by the Civil War, that an era of cheap because temporary hospital construction had been attained, could not be realized. It was found in reality that so-called temporary structures had a perennial life, and became permanent not because they were good and well-fitted for their uses, but from a mistaken notion that when the time had come for their destruction they were too good to throw away. They were too valuable to destroy, and too worthless to repair, and, like half-worn garments, they proved sources of embarrassment to their occupants, and invariably became dilapidated, insanitary, and unsightly. It is apparent that a hospital building will be permanent whether well-built or not, and it is consequently of prime importance that it should never, except in the case of field hospitals or a cottage hospital, be constructed of wood. In some of the older hospitals, the mistake has often been made to patch up old and obsolete buildings, or to construct new and improved buildings, for the accommodation of a portion of a hospital, which in other portions may be unsightly and ill-adapted to hospital uses. Wherever practicable the plan of a hospital should be perfected in every detail before the work of construction is begun. Such a course will insure a proper balance of accommodation of all departments and an artistic treatment of details unattainable where buildings have been erected, one by one, in successive architectural eras to meet pressing necessities.

*Arrangement of Buildings.*—In a hospital built on the pavilion plan, the wards should not be above two stories in height, in addition to a good basement, and the arrangement in order should be as follows: 1. A surgical building for men, designed to accommodate cases of acute and abdominal surgery upon the first floor, and less acute cases and infected cases upon the upper floor. 2. A medical building for men, with beds for acute and less acute cases upon the first and second floors, respectively. 3. Two similar medical and surgical buildings for women. 4. A building for obstetrical and gynecological cases. 5. A building for patients of either sex who suffer from severe infectious and contagious diseases, or who are delirious or otherwise unpleasant, or sources of peril to their fellow-patients. 6. If the site of the hospital is an appropriate one, a detention building for the insane should also form part of the general plan. 7. Operating-room pavilions, containing all necessary rooms for surgical and gynecological operations. These should possess examination, preparation, and etherizing rooms, rooms for photography, for the sterilization of dressings, and operating rooms. Special provision for medical teaching should be made in connection with each operating-room block. At this age of the world, and in the present complexity of medical instruction, each general hospital in its construction should bear in mind the needs of the medical student for medical and surgical instruction. 8. Outpatient



departments, arranged for at least ten divisions of service and five recitation or operating rooms for medical and surgical teaching. These latter rooms should be large and airy, and should be arranged with separate entrances for students. g. A convalescent home, situated in the country in a desirable location for the reception of patients convalescing from serious surgical operations, or from exhausting and long-continued diseases. These buildings may be less expensive and more home-like structures than those of the hospital proper.

Coming to the details of the hospital wards, it may be said that each ward should furnish beds and accessory room for at least thirty patients. The greater portion of this accommodation ought to be in a large ward so separated from other buildings as to furnish light and air upon three sides. The long axis of the ward should have one end toward the south unobstructed by any other buildings. In addition to the long wards two smaller wards for acute diseases, accident cases, or delirious patients should be provided. The lavatory and water-closet should be in a projection of the building, if possible with an open-air cut-off between the latter and the ward, and the two rooms to avoid confusion should be entirely separate. The bath room should be adjacent to the lavatory. There should also be a slop room, containing sinks for emptying and washing utensils, a separate lavatory and water-closet for the use of nurses, a linen room and a store room for patients' articles. There should also be provided a small room in the male wards to be used as a coat room and dressing room by the orderlies or male servants. Each ward should be provided with a dining room for convalescents, and a tea-kitchen adjoining for the preparation of food and for emergency cooking. In addition there should be provided a room for a permanent bath, and a room for clinical and microscopical work in the medical wards, or for surgical dressings in a surgical ward.

*Heating and Ventilation.*—The heating should be with indirect hot-water radiators, or with indirect low steam, and never with direct steam. Heating, in fact, should never be possible without ventilation, efficient ventilation not being practicable with direct steam. The heating apparatus should be in the basement, and the currents of air should be conveyed from the coils through flues in the walls, lined with galvanized iron to render them as frictionless as possible. These flues, if the walls are thick enough to permit it, should be round, but if this is not practicable, the flues may be square or oblong. It makes little difference whether they are 8 by 8 ins. or 4 by 16 ins., provided they are properly situated and connect the heating coils directly with the room they are designed to heat. The apparatus for ventilation should be so arranged that it will be made effective by thermic currents, and not dependent upon mechanical means. Hence, the ventilating flues should by preference terminate in aspirating chimneys heated by steam coils, and the foul air should thus be aspirated from the rooms. Mechanical devices for ventilation by means of fans and blowers are in need of constant attention, and thus become a source of expense. For these reasons, they should be avoided as far as possible. Mechanical ventilation, however, is required in kitchens, laundries, autopsy rooms, and operating rooms, where the heated or impure air cannot be

removed quickly enough by natural atmospheric forces. In some instances hospitals, under special atmospheric or climatic conditions, require to be heated and ventilated by blower fans, which distribute the warmed air from a heating chamber in the basement. This has the objection of much loss of heat from friction against the sides of the flues in the long distances which the heated air must traverse before reaching the more distant wards. There is also danger of an inequality of heating between the nearer and more distant apartments. In climates, however, where in the winter the prevailing winds produce much back pressure, this method of forcing heated air into wards, although expensive, works well. Two open fireplaces should be built in each long ward, and one at least should be given to each small ward or single room. These add cheerfulness to the ward, and are a source of comfort in mild weather before more elaborate means of heating are required, or in severe winter weather to supplement ordinary methods of heating. As far as is consistent with the hygienic condition of the hospital wards, such fireplaces should be attractive, if not highly ornamental. They may also be planned to supplement the system of ventilation. In rooms occupied by patients suffering from offensive or infectious diseases, they are found a great assistance to ventilation. The air which has been warmed by hot-water coils or low steam should be introduced into the wards at the height of 6 ft. from the floor by means of flues in the outer walls. Openings for the aspiration of foul air, on the other hand, should be in the floor or in interior walls, with supplementary openings in the ceiling or at the level of the ceiling. By this arrangement a constant supply of fresh air may be obtained, and a positive interchange of the air of the rooms. Where, as in some institutions, the inlet flues for warm air are in the inner walls, and the outlet flues for foul air are in the outside walls, there is always danger of back pressure from cold air, which finds access about the windows, and acts as an obstacle to the diffusion of the heated air in the room. All outlet flues should be connected with aspirating chimneys, which are either provided with aspirating coils, or with aspirating fans operated by steam or electricity. Inasmuch as all mechanical devices wear out and require more or less constant attention, it is always preferable to depend upon aspiration by thermic currents rather than by steam or electric fans.

The openings in the outer walls for the introduction of fresh air to supply the steam or hot-water coils should be at least 6 ft. above the surface of the ground, and the air should be derived from grassy lawns or other clean open spaces. All attempts to filter air through gauze or cotton wool have thus far proven of little practical avail because the meshes of the filtering material soon become clogged, and without daily, almost hourly, attention, the supply of fresh air to the heating coil is in great measure cut off. An attempt, also, to cool the air of wards in summer by jets of spray has proven impracticable because of the extreme humidity which is thus given to the air—a condition which is much more irksome to the sick than contact with currents of dry air at a much higher temperature. Hence, in summer, heat devices should be employed not to cool the air, but to keep it in motion, and thus to take away from the patient the sensation of dis-

comfort which accompanies slow-moving currents of air heated by a semi-tropical sun.

In the winter time, on the other hand, it is desirable that in the access of heated air the conditions of summer should be reproduced as far as practicable. The air should not be heated to a temperature high enough to deprive it of any undue proportion of its moisture, but it should be introduced into the wards in large amounts, so that the patient may be bathed in air at a temperature but a few degrees above that of summer heat.

*Precautions against Fire.*—As far as practicable, hospital buildings should be fire-proof, or at least slow-burning, if an absolutely fire-proof structure is not available on the score of expense. Mill-construction, so called, is not to be advised for hospital purposes, because the floors, ceilings, and side walls present an unfinished and unsightly appearance, and are incapable of proper ornamentation. If an attempt is made to cover up the ceiling joists by the use of steel or any other form of unplastered ceiling, the effect is incongruous, and spaces are left for the nesting of vermin. The character of the flooring is also open to criticism from its rough and unsightly appearance. It cannot be rendered smooth or sanitary without an expense, which defeats the principal advantage of mill-construction, *vis.*, cheapness. Whenever such construction has been attempted in hospitals or institutions for the insane, experience has shown the buildings to be short-lived, difficult to keep in repair, and unsatisfactory. The most effectual, and at the same time the least expensive, fire-proofing is obtained by using steel beams to separate the stories, and filling in the spaces between them with terra-cotta lumber. This permits a rough floor above to be covered by a permanent floor, an air-space for deafening, and a ceiling below disconnected from the floor joists and capable of ornamentation. As a precaution against the absorption of the germs of disease, as well as a safeguard against fire, it is preferable that the use of wood as a building material be reduced to a minimum. Hence, door and window frames, window-sills, and bases of wood should be discarded, whenever possible. In the openings for windows and doors there should be rounded corners of molded brick or plaster. All ornamental work about the windows should be discarded, and the window-sills should be of slate or marble, preferably the former, as less liable to become stained. In bath rooms, lavatories, and water-closets, where tile floors are admissible and desirable, all bases should be of iron, Portland cement, or colored marble.

*Floors.*—A satisfactory material for flooring remains to be discovered. The floor of a hospital ward should be smooth, free from cracks, non-absorbent, uniform in color, easily kept clean, bright and pleasing in appearance. While a tile floor is most appropriate from a hygienic point of view as non-absorbent, it is not well suited to the actual needs of the hospital. The individual tiles become loosened from their setting by wear and are easily displaced, requiring frequent resetting. The surface is hard and slippery, and accidental falls on the part of the helpless, clumsy, and feeble patient or the hurried and pre-occupied nurse, often rendered helpless by having her hands filled with instruments or utensils, are not infrequent. The tile also is cold and

disagreeable to half-protected feet. The general effect of a tiled floor, too, is unhomelike and institutional, and hence, the material should be avoided. The same objections also exist equally to the use of marble and cement, which have the additional disadvantage of being porous. They are liable to absorb liquids and thus become stained and unsightly. Marble wears unequally, and requires frequent repairs to keep the surface smooth and even. An interlocking rubber tile has within a few years been introduced for covering floors which are subjected to constant wear. This is very durable and is practically noiseless, but its unpleasant odor forbids its extensive use in the wards of a hospital, and it has never met with much favor.

A new substance known as lignolithic flooring, composed of saw-dust and wood fragments cemented together by a secret preparation, and applied to the floor in a continuous sheet, and afterwards rubbed down to form a smooth surface which can be waxed and polished like an ordinary parquetry floor, has recently been employed as a flooring for large wards in some hospitals. It has the defect of showing stains, and after a little use presents a mottled, untidy appearance. The fragments of wood which enter into its composition disintegrate under wear, and the surface sooner or later presents a roughened, worm-eaten appearance. If the material cemented together were of the same degree of density as the cementing substance, so that the surface would wear uniformly, a flooring of this character would be an ideal one. The surface is bright and pleasing to the eye when it is first laid down, and there are no cracks or grooves, as in an ordinary wooden flooring, to gather dust or to retain infection.

The best form of flooring at present available seems to be little squares of compressed cork. It is elastic, non-absorbent, and practically indestructible. The material, however, has not yet been sufficiently tried, and disadvantages at present unknown may develop after prolonged wear.

If wooden flooring is used, Southern pine, quarter-sawn and properly put down, is undoubtedly the best material to use. Maple and oak, however, if carefully selected and properly laid, are also serviceable. All wooden floors, however, from constant wear and constant rubbing, soon become splintered, and are expensive to keep in repair.

*Walls.*—The walls of a ward should be plastered and painted, or, if economy is not an object, they should be covered with a glazed brick, carefully laid. Encaustic tile is not well suited for the walls of large rooms. Class rooms, laboratories, water-closets, bath rooms, sterilizing rooms, autopsy rooms, and dispensary rooms should have the walls covered with glazed brick.

*Chutes for Clothing.*—It is not advisable to provide dust flues for shooting down sweepings and garbage to the basement, because they inevitably become unhygienic and breeders of vermin, if not nests of actual disease. Chutes for the disposal of soiled clothing, also, should not be constructed of brick, nor should they be rectangular in form and of large size, because of the difficulty of keeping them clean. They should, on the contrary, be round metal tubes, one, at least, for each ward, with smooth interior surfaces, every portion of which can be



cleansed and disinfected, through which all soiled clothing can be shot to the basement as soon as removed from the person or bed of a patient. By an arrangement of metal receptacles at the termination of these chutes, it is possible to reduce the possibility of contaminating the building by soiled clothing to the minimum. All refuse, whether from the hospital wards, the laboratories, or the kitchen, should be destroyed daily by fire.

#### SUBSIDIARY BUILDINGS.

*Dead House and Accompanying Laboratories.*—The dead house should give accommodation to a large morgue for the reception of patients who die in the hospital. In close proximity should be an autopsy room for the study of gross pathological appearances after death. Attached to the autopsy room should be a room for the bacteriological study of body fluids, and another room or rooms for the study of pathological conditions in body tissues by means of frozen or hardened sections under the microscope. For convenience, also, rooms for the study of surgical and gynecological pathology should find a place in this building. A room should be provided for the permanent keeping of pathological specimens and other similar objects of interest. It is extremely desirable that a mortuary chapel for funeral services over the remains of patients who have no homes in the city, and a waiting room, be provided in connection with the dead house. If the hospital is a part of a medical school, or furnishes clinical facilities for a medical school, there should be in addition rooms for teaching, such as an amphitheater for autopsies and a large class room.

*Clinical Laboratory.*—In addition to the small rooms for microscopic study in connection with each ward above mentioned, a general clinical laboratory should be established for the clinical study of body fluids, fæces, the blood, etc. It is desirable that such a clinical laboratory be situated in a building convenient to the wards but especially devoted to this work.

*Nurses' Home.*—This building should be separate and wholly distinct from the other buildings of the hospital. It should contain sleeping and sitting rooms for nurses, reception and study rooms, and all conveniences for cooking and serving food within its own walls. Each nurse should have a private room, and special provision should be made for bath rooms and toilet rooms. The dining rooms should be large and airy. The rooms set apart for the use of night nurses should be especially arranged to give quiet and seclusion, so that sleep may be practicable during the day-time.

*Kitchens.*—The kitchens should be in detached buildings open to the roof, and the false economy of placing employees or servants in the upper stories of a many-storied kitchen building should have no place in hospital construction. The floors of the kitchen should be constructed of vitrified tile, and the walls should be of glazed brick. The room designed for steam cooking should be separate from the main kitchen, and the steam room and the kitchen proper ought to be forcibly ventilated by a blower fan of sufficient capacity to change the air of the kitchen at least once in five minutes. The rooms for the preparation of vegetables should adjoin the kitchen, as also the diet kitchen and rooms for cold storage and refrigeration.

## The Warehouses at Cupples Station, St. Louis, Mo.

EAMES & YOUNG, ARCHITECTS.

THAT architecture is an expression of the civilization, of the history, of a period, or of a race is as true to-day as it was in ancient times, and is as excellently illustrated in a group of modern warehouses as in an old Greek temple.

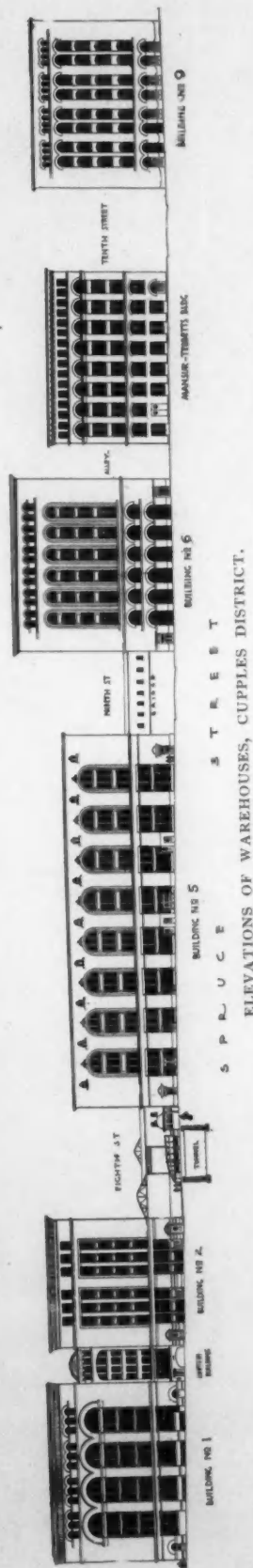
In the case of the temple, the study of this expression is simple. Creations there are so largely a matter of religious association, forms are so fixed by canon or custom, that the slight changes due to different materials in different periods can readily be traced.

But modern conditions are so varying, and detail has come to depend so much upon the personal taste of the architect, that the student must look to the changes in the history and development of our country itself quite to understand the present form of some of its characteristic buildings. Although in matters of detail, indeed, precedent has been sought, we have on the whole met our architectural conditions as frankly to-day as the temple builders met theirs long ago; and our buildings are as characteristic of our times as the temples are of the times in which they were constructed.

In St. Louis, Mo., there is a case in point where the architectural expression of the commercial history of the country is well illustrated in a group of buildings lying in a portion of the city, which ten years ago was in a ruinous condition of decay, but which has now, through them, been transformed into a prosperous center of activity, where business operations amounting to millions of dollars are daily conducted.

This new business quarter has become known as the Cupples District, from the name of the principal owner.

At the conception of this enterprise, the wholesale trade



was in the hands of individual firms scattered over a great area, each keeping up a large force of men and teams engaged in the transfer of freight between the stores and the various railroad termini and the river front.

Mr. Cupples and his associates saw that a great saving in operating expenses might be effected by concentrating a number of large shipping houses at a point convenient to the railroads, thus doing away with the necessity of drayage, except for local business. It was found that the saving in this item of expense, and the decreased cost of insurance, consequent on the occupation of a better grade of buildings, would pay for the extra cost of same, and leave a handsome profit for the owners. Naturally the advantages offered of modern equipments at reduced rent were effective in producing a hegira to the new district, and tenants were at hand in nearly all cases before the buildings were well begun.

The project as executed is not to be considered as a single architectural composition, for the various warehouses were planned and built from time to time as the demand for occupancy increased. For the purpose of

this article, the buildings are numbered in the order of their construction. Referring to the Block Plan (Fig. 1)

it will be seen that the buildings adjoin the yards of the Bridge and Terminal Company, which give direct connection with all railroads entering or leaving the city. From the yard switches spurs are laid, leading directly into the basements of the various buildings. All incoming goods are unloaded directly from the cars to shipping platforms connecting with the elevators

of the various stores, and thence distributed to the upper floors.

Directly over this platform is a second one (Fig. 2), on which outgoing goods are handled, sorted, and at the proper time dropped by elevator to the lower level, and loaded directly into the cars.

Some of the more distant buildings are connected with this central shipping platform by means of bridges spanning intervening tracks over which goods are trucked, or conveyed by moving platforms. The moving of goods is not done by the individual firms, but by a separate company, who have reduced it to a system,



CUPPLES DISTRICT, GENERAL VIEW.

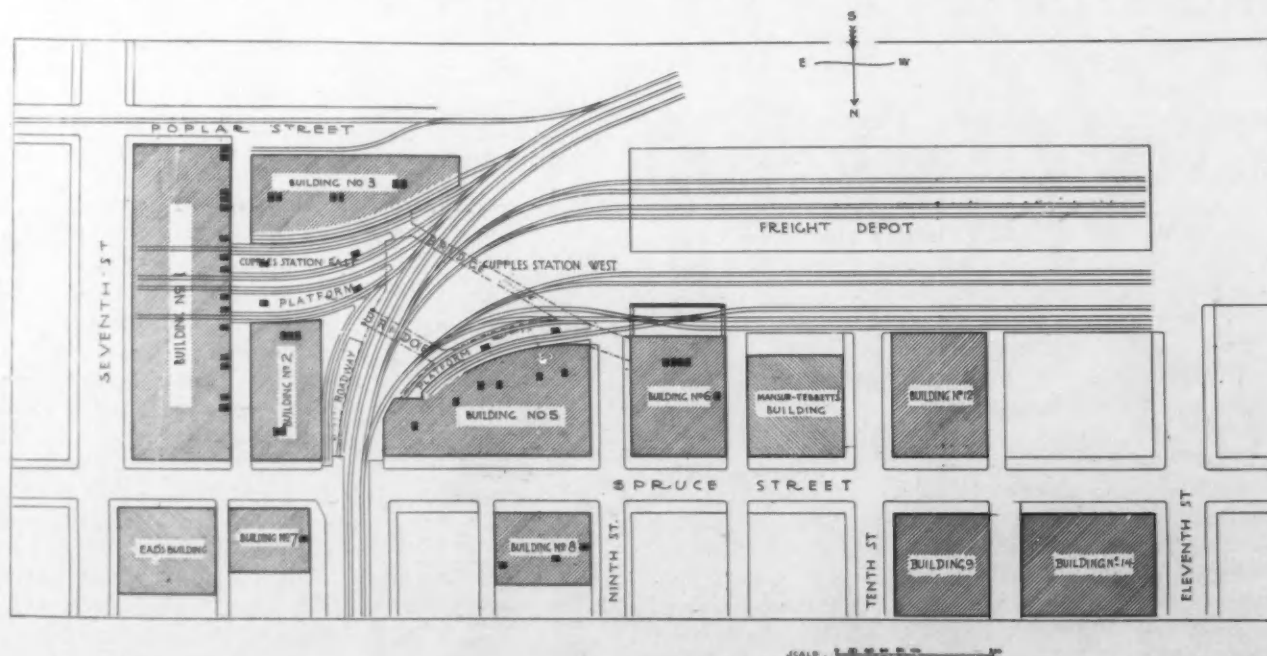


FIG. 1. BLOCK PLAN, CUPPLES DISTRICT.



thus avoiding unnecessary confusion, this service being paid for by each shipper, according to the volume of freight handled.

The buildings are all of heavy standard, slow-combustion construction, except such portions of the basement as are entered by railroad tracks, which are wholly fire-proof, and the shipping platforms, which are of steel construction. The necessity for bringing many of the trucks into the buildings on a curve gave rise to many complications in construction, the solution of which furnished ample scope for the exercise of the highest ingenuity in structural design.

One of these is shown in the curious truss form, seen on the upper shipping platform (Fig. 2), where the posts spaced on curves below, support the regularly spaced timber construction of the upper stories.

The power-house, controlling all the heating and lighting, and doing service for seventy-four elevators, is of especial interest to the engineer, as is also the fact that these elevators are run by a high-pressure hydraulic system, operated by one service pump. This pump is automatically controlled so as to act the moment pressure is reduced by the use of a single elevator.

So far as concerns exterior expression, it will be seen that the group has not been treated as a single architectural composition. At first it was intended to use throughout the motive shown in Warehouse No. 1 (Fig. 3), but it was found that the larger tenants, especially, desired to retain their individuality as much as possible, and because the varying requirements of each business installed necessitated such modifications, this idea was abandoned, and each building independently designed.

The largest of the buildings, Warehouse No. 1, occu-

pies an entire city block, and is more than 400 ft. long. It is six stories high, divided into base and cornice by horizontal bands. Vertically it consists of ten central round-headed bays, terminated by broad pieces pierced by coupled end bays. The vertical lines of these pieces



FIG. 2. UPPER LEVEL SHIPPING PLATFORM, SHOWING TRIANGULAR TRUSSES IN BACKGROUND.

are carried through the basement story, giving a satisfactory base and ample light.

The frieze is filled with a series of small round-headed windows grouped over the large bays below. The springing line of the arches is carried through, and a large corbeled cornice crowns the whole.

A local point of interest is the corner entrance. There the weakening effect that would naturally be given to the pier by piercing a door through it is overcome by band-courses.

In spite of the network of telegraph wires surrounding it, and the optical distortions they produce, the façade of this building has great dignity.

Up the street to the right of Warehouse No. 1 is the



CUPPLES STATION BUILDINGS FROM REAR.



FIG. 3. WAREHOUSE NO. 1.

next largest building of the group. This warehouse, known as Warehouse No. 6 (Fig. 4), is flanked on both sides by smaller buildings.

Here an attempt is made to group the openings more closely by means of sill-courses; the pier space at either end is quite unbroken. The basement is marked by a strong line, above which is a sill-course joining the six main bays. Similar sill-courses connect the smaller windows of the frieze and the second story of basement windows.

This building, No. 6, has a much sturdier expression than Warehouse No. 1. The high basement and the smaller cornice concentrate the interest below. The cornice consists of a few courses of corbeled brickwork, crowned by a flat projecting band.

Altogether the building is a well-studied attempt to gain an effect by simple means. All that can be called ornament is a series of offsets forming the jambs of the main windows, and giving, as can be seen on the side, the effect of a deep reveal.

The scale of the structure is excellently planned, and



FIG. 5. WAREHOUSE NO. 5.

the exceptional instance of façade and sides, treated alike, gives a dignity that many buildings not called warehouses might very justly envy.

The buildings are, in general, of the familiar "aqueduct" type, — that is, having a series of large arched openings supporting a smaller story of narrow arches. These small openings are grouped, in some buildings, over the axes of the larger ones; in others they are spaced at equal distances across the façade.

In Warehouse No. 5 (Fig. 5) the windows are very large and are divided by mullions; the bays are three stories high, each with round arch and molded architrave. The crowns and springs of the arches are ornamented, and in the spandrels between the arches are hung great terra-cotta shields.

There is, however, no frieze or attic; the composition is just two stories, of which the more important is termi-



FIG. 4. WAREHOUSE NO. 6.

nated by a cove formed of slightly projecting brick courses.

The chief interest in this building lies in the use of color. The bays and panels between the windows are of a light brown or yellowish brick, making a decided contrast against the dark-red body of the building. The large shields, again, are darker than the wall.

But notwithstanding these spots of ornament, the shields, the cornice still appears too thin. Where no frieze is used, one feels the need of a huge projecting cornice, like those in the Florentine palaces, for instance.

In all these buildings simplicity of treatment and a sparing use of ornament show to what good effect intelligent study and taste can be brought to bear upon even so commercial a problem. Little attention, however, has been given to the grouping of the district as a whole; and the opportunity for a consistent sky-line is lost in consequence. But the peculiar growth of the district probably rendered such grouping impracticable.

These eighteen buildings, all the work of Messrs. Eames & Young, are not only triumphs of commercial architecture, but are, as well, unusual engineering and



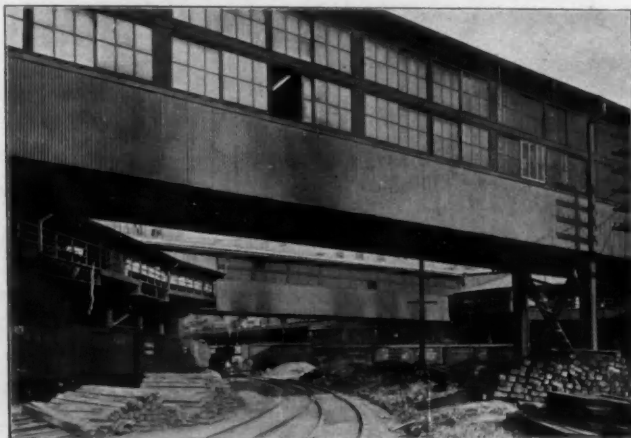
practical achievements. As was already touched upon, their total floor area is nearly 2,000,000 sq. ft., and their cubic contents upward of 30,000,000 cu. ft.



ALLEYWAY BETWEEN BUILDINGS 1, 2, AND 3, COMMUNICATING WITH SHIPPING PLATFORM.

#### CLAY IN MODERN BUILDING.

THE use of burned clay in nearly all classes of modern building construction is to-day more extensive than at any time in the history of the building trades, and there are many reasons which indicate that its use is destined to increase greatly in the years to come. In all the varied forms in which the substance is thus employed its abundance makes its use a matter of economy, and at the same time it is the most efficient material obtainable, and has a wonderful adaptability to the varied building uses. As to its ability to withstand climatic conditions



REAR VIEW OF SHIPPING PLATFORM, SHOWING CONNECTING BRIDGES.

there has never been any question, for no better material for resistance to heat and cold is obtainable. Like all other building materials, in the hands of ingenious craftsmen, clay is directed into many different channels of usefulness. Its strength is not to be questioned, and all kinds of burned clay are readily beautified in form and color. To-day brick architecture may well be regarded as the foremost feature of building construction from an æsthetic point of view, as well as from a practical and economic one. — *The Builders' Journal, London.*

## Fire-proofing.

#### THE NEW YORK FIRE INSURANCE EXCHANGE SCHEDULE.

IF there were any lingering doubt as to the efficacy of the fire-resisting methods and materials which this journal makes a special object of advocating, it would be quite dispelled by an examination and analysis of the Schedule published by the New York Fire Insurance Exchange. The Exchange represents some of the largest interests in the country, and its affairs are directed by a body of men without sentiment or fancy, who consider building from the cold, matter-of-fact standpoint of dollars and cents, and who weigh in an absolutely impartial manner the value and the defects of the different materials and methods of construction which enter into a large building. A fire loss or damage is really about the only eventuality which a thoroughly well-equipped, modern, commercial structure has to fear, and experience has abundantly demonstrated not only that all so-called fire-proof constructions are not entirely exempt from danger, but that even the best of them must be most carefully safeguarded, and the liability of a fire doing very extensive damage in a large office building is one which is constantly before us, owing, however, not to the construction so much as to the nature of its contents, its arrangement, etc. Such liability is discounted to a very considerable extent, from the owner's standpoint, by fire insurance, but the judgment of the body of men who define the measure of the risk involved in such discounting of chances is certainly something which is worthy of receiving the fullest consideration.

The most striking feature of the schedule of the Exchange, from our point of view, is that which relates to floor arches. For those who are not familiar with this schedule, we will say that a key rate is arbitrarily established as a basis for computation, this rate being ten cents per hundred in New York. Additions to this rate are made for certain specific methods or style of construction on the one hand, and percentage deductions are then made for certain excellencies, or compliance with certain established rules, and a final rate is thus established. This rate is in turn subjected to a further deduction on account of a practice which prevails of giving five years' insurance for a single payment equivalent to three years' premium. Under the item "Floor Arches," it is stated that "no additional charge is made, provided brick or segmental arches of brick or burnt clay are used." If the arches are of "concrete, cement, or approved plaster composition floor arches, with iron centers or supports," there is an extra charge of four cents, while for a "flat arch supported on iron" the charge is twice that, or eight cents, and if the space between floor beams exceeds 5 ft., for each foot in excess one cent is added to the rate, one half of the above charges, however, being applicable to office or hotel buildings. The schedule is quite specific in detailing the special forms of patented constructions for which an extra charge is made, and, indeed, we imagine that the representatives of these patent systems, all of which have received the distinct approval of the New York Building Department,

would naturally feel that the schedule was unpleasantly specific. Our own interest in the matter is that brick and terra-cotta are by this schedule acknowledged as being the very best for purposes of fire protection.

Under the item of "Unprotected Iron," a charge of ten cents is noted for unprotected cast-iron columns, while for unprotected wrought iron or steel the charge is fifteen cents, and it is particularly noted that columns filled with cement are considered dangerous. This raises a point upon which the best experts are not in accord. Unprotected cast iron will undoubtedly stand a greater amount of heat without dangerous deflection than wrought iron or steel. At the same time, it seems to us unfair in this respect, for even granting the relative weakness of wrought iron against fire, its greater rigidity at the joints, and the greater ease with which it can be wrought into first-class shape for all emergencies, lead to a better building in results, and this the insurance people do not apparently take into account. As to the danger from filling the columns with cement, it is hard to see just wherein it lies, and at best the danger seems to us an academic distinction rather than a practical fact.

Under the item of "Walls," we find that skeleton construction, when composed of wrought iron and steel, involves a charge of two cents, while there is no charge made for cast iron. Here again we believe an injustice is done to what is really the better method of construction. Also, for an average thickness for two-side or bearing walls, or either of them, less than 20 ins., the charge for each inch of deficiency is one cent, or double this amount if any portion of the wall is less than 12 ins., though the proviso is made that if the wall is built according to the New York Building Law no charge is made. The height of the building also very seriously affects the rate of premium. For every story above eight and up to twelve, the charge for an office building will be one quarter cent per story, but when the building reaches the height of thirty-three stories, which has been attained by one of the recent New York structures, the maximum increase in rate would amount to nearly fifty cents. This is a pretty high tax on a tall building. We may justify it only by the present existing difficulties in pumping water to the upper stories in case of emergency.

An investigation of this schedule, and the carrying out of the different charges, credits, and allowances made possible in a thoroughly first-class modern structure, gives a final rating of a little over seventeen cents per year per hundred, or on a basis of three premiums for five years' insurance, the rate would be a little over ten and one quarter cents per hundred. When it is reflected that the cost on this basis of a million dollars' insurance would be only \$1,027 per year, it will seem that after all, though some of the provisions are exacting, the result as a whole is a generous one. Indeed, the wonder is that the rate could be so low, and when we consider that these rates have been established as a result of long experience and most careful investigation of actual losses, we can only arrive at the pleasing conclusion that though our methods still are faulty and buildings are not fire-proofed by any manner of means to perfection, at the same time the amount of real protection against ultimate loss is very great, and that our fire-proofing methods have arrived at a very high degree of perfection.

## Selected Miscellany.

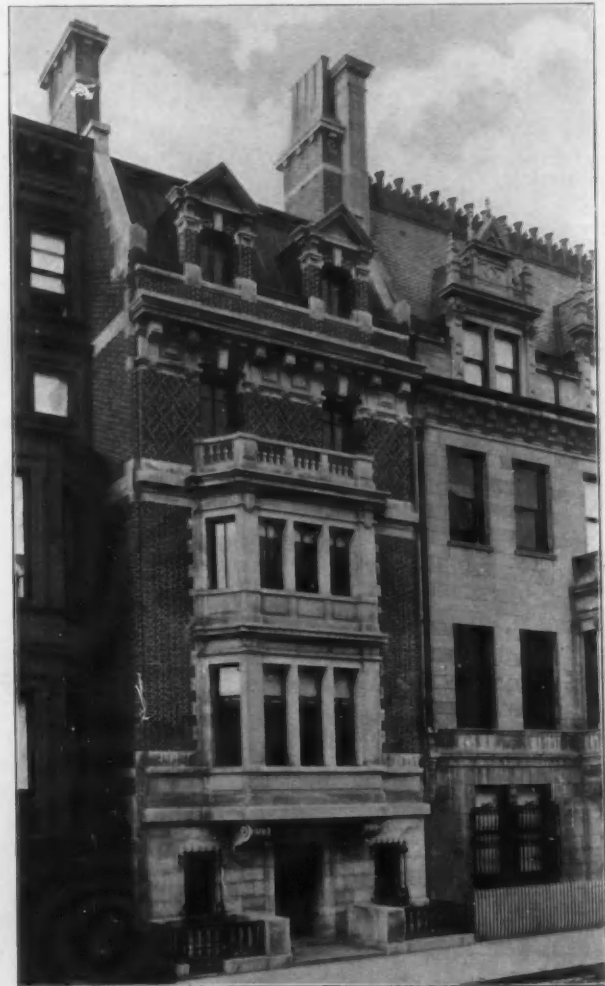
### NOTES FROM CHICAGO.

The usual inactivity still prevails at the new Post-office building. To this fact the following paragraph from the *Chicago Daily News* bears testimony:—

"'Friend,' said the medical student, cautiously, 'is there a skeleton in Chicago that any one wishes to get rid of?'"

"'Yes,' said the citizen, 'take the new post-office. We would be glad to get rid of that skeleton at any price.'"

The Architectural Club has offered its services to the city in the designing of shelters and enclosures for five



HOUSE, NO. 8 EAST 75TH STREET, NEW YORK CITY.  
Lord, Hewlett & Hull, Architects.

public playgrounds, for which provision has recently been made by ordinance, and has delegated the work to Messrs. Perkins (member of the Park Commission), Llewellyn, Spencer, Holsman, Frank Garden, Fellows, Long, Watson, and Lilleskau.

Although the appropriation is very small, the problems presented are interesting, and it is important that good design offset the limitations of crude and simple materials.





STAIRCASE, HALL.



HALL, LOOKING DOWN CORRIDOR.



DINING ROOM.



LIBRARY.



DEN.



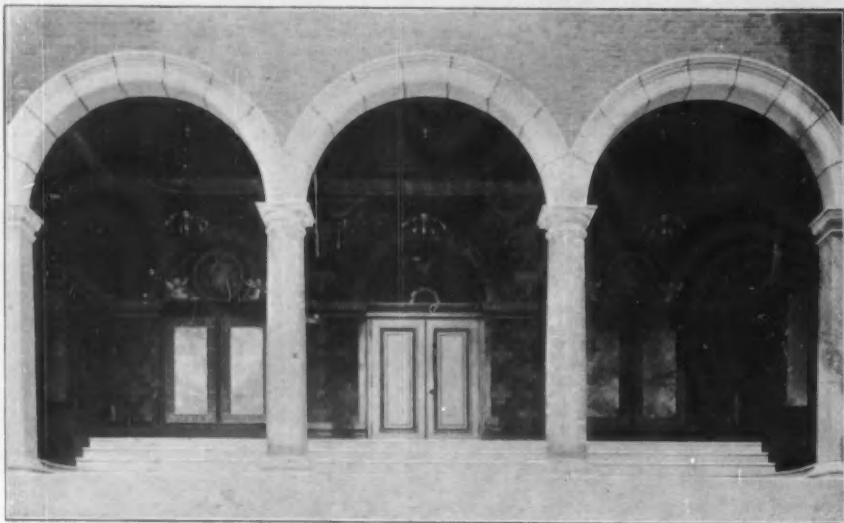
DINING ROOM.

INTERIORS, HOUSE AT TUXEDO PARK, NEW YORK.  
R. Clipston Sturgis, Architect.

A most beautiful and unique example of terra-cotta work has just been completed at Bellevue Place, a small triangular piece of ground at the intersection of Rush and North State Streets. It is the shelter and fountain designed by Birch Long, and accepted by the Womans' Club, as a result of a competition held last year by the Architectural Club.

For the first time in local architectural history, glazed terra-cotta has been used, in which rich polychromatic

effects have been obtained. And this has been done with such marked success, that even the famous Della Robbia pieces seem raw and crude in respect to delicacy, softness, and modulation of color. The design is as refined and original as the craftsmanship, and should prove a valuable object-lesson to the community in the possibilities of a modern architecture suited to modern and local materials, adorned with decorative forms derived from the plants which grow in our fields, forests,



VESTIBULE, CHURCH OF THE SACRED HEART, NEWTON CENTER, MASS.

W. H. McGinty, Architect.

Showing the use of Faience in conjunction with marble. The Sienna marble panels are framed by an ornamental band of Faience in two colors. The cornice and upper course are in buff, and the walls are in two shades of green Faience. Grueby Faience Company, makers.

and ponds. Chicago, the young designer, the terra-cotta maker (American Terra-cotta and Ceramic Company) and the Womans' Club are all to be congratulated on this happy result.

Mr. C. R. Ashbee, of London, the well-known architect and Arts and Crafts leader, has recently spent several weeks here studying Chicago as an art center, and trying to organize a branch of the National Trust for Places of Historic Interest or Natural Beauty, an organization which has already accomplished much in England for the preservation of old buildings and other objects of historic interest, and in preserving the beauty of natural scenery.



DETAIL, BY BARNEY & CHAPMAN, ARCHITECTS.  
New York Architectural Terra-Cotta Company, makers.

Owing, perhaps, partly to his very blunt way of characterizing Chicago's ugliness, dirt, and disregard for art, and partly to silly sensitiveness on the part of some of the city's well-meaning but misguided defenders who left Fullerton Hall during Mr. Ashbee's talk on the need of affiliated organization in America, no very definite action has yet been taken toward the formation of a local organization; but enough has been done, however, to insure something of the sort in the near future. Possibly

the work may be taken up by the Architectural League, and the American Park and Outdoor Art Association in cooperation.

#### NOTES FROM PITTSBURGH.

Most of the Pittsburgh architects report that the dull times of pre-election days are still continuing, but all seem confident that the coming year will be a busy one.

Mr. Carnegie's visits to Pittsburgh are far between, but for several years they have been coincident with the announcement of splendid gifts to the city. A year ago he promised to build the large addition to the Carnegie Institute; this year he has announced that if the city will provide a site, he will build a large technical school, and endow it with \$1,000,000.

The matter is already before councils, and Pittsburgh will, no doubt, act differently than another Pennsylvania city which has just refused an offer of Mr. Carnegie to build a library, on the ground that the yearly addition of \$3,000 to the taxes would be burdensome.

A Carnegie library is soon to be begun at Duquesne, Pa., to cost \$300,000; Alden & Harlow are the architects.

The property across from the court-house on Grant Street has just been purchased by Mr. H. C. Frick, who will build a twenty-story office building there; D. H. Burnham & Co., architects. The building is to be set 10 ft. back from the building line on Fifth Avenue, to give a wider sidewalk, and also not to obstruct the view of the court-house. Considering the loss of floor space and revenue, such a public-spirited act is indeed praiseworthy.

#### NOTES FROM ST. LOUIS.

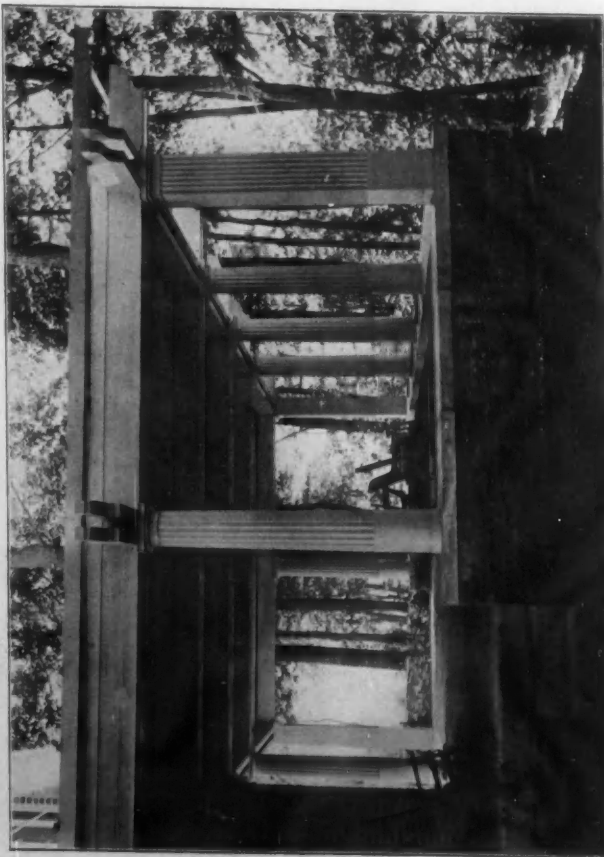
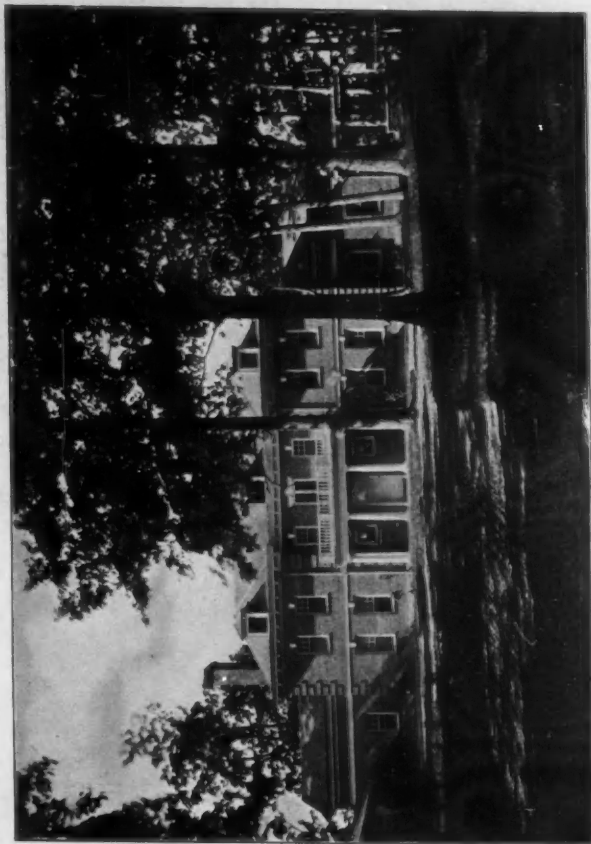
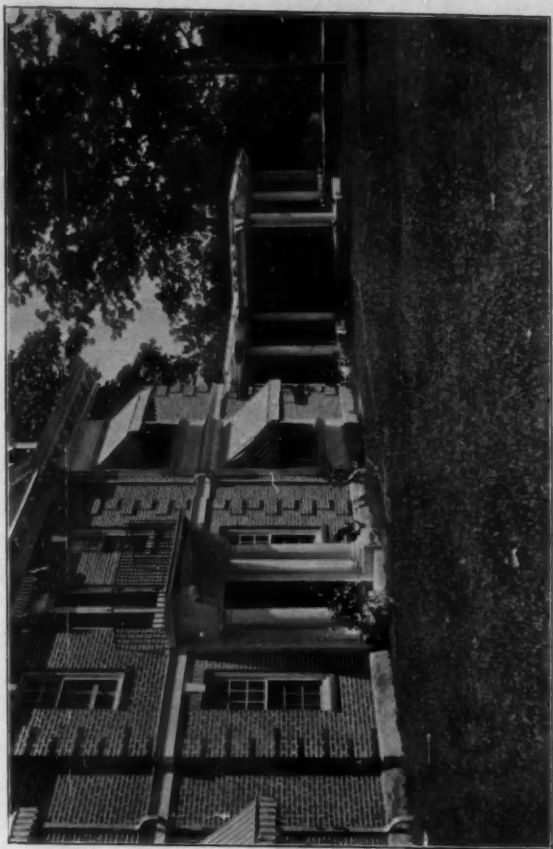
The high figures received for work placed upon the market during the past eighteen months, and which has been the cause of some very important work being abandoned, is attributed to an agreement that seems to exist between contractors, sub-contractors, and material men, that each bidder add to his proposal a percentage to be divided with the unsuccessful bidders in case the contract is awarded; that only invited contractors shall submit bids, that



COLUMN, BY WILLIS  
G. HALE, ARCHITECT.

Conkling-Armstrong Terra-Cotta Company, makers.





✓ HOUSE FOR WINSTON CHURCHILL, MONTPELIER, VT.  
Charles A. Platt, Architect.





PANEL, BY KEES & COLBURN, ARCHITECTS.

Winkle Terra-Cotta Company, makers.

Further evidence of unnatural conditions prevailing is found in the records of the Building Commissioner, which show that there has been less building done in the city during the first ten months of the year than during any similar time since 1888, not excepting the years of the panic.

It was hoped that the success of the World's Fair amendments, which were approved at the recent election, would cause a revival of business; but a constitutional amendment, which was adopted at the same time, taxing mortgages, deeds of trusts, etc., promises to become an element of uncertainty which may further delay important improvements, causing timidity in the investment of foreign capital, if it does not occasion its withdrawal from the State altogether.

#### IN GENERAL.

The Cincinnati Chapter of the American Institute of Architects held its regular monthly meeting, Tuesday, Nov. 20, 1900. The following officers were installed for the ensuing year: President, G. W. Rapp; vice-presi-



PANEL, NEW JERSEY TERRA-COTTA COMPANY, MAKERS.

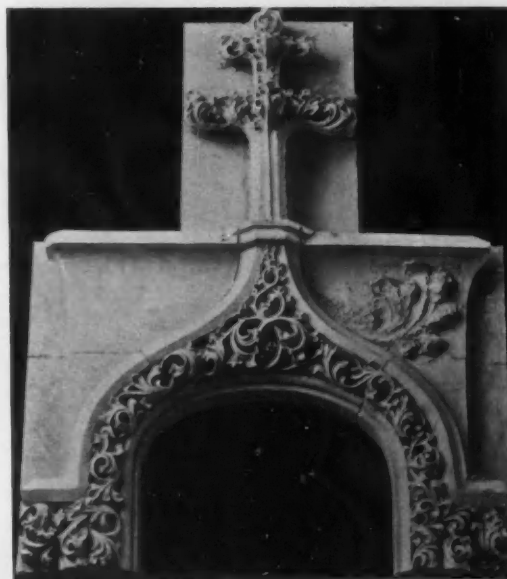
dent, A. W. Hayward; secretary, George M. Anderson; treasurer, George W. Rapp. A program of the papers to be read during the winter was distributed. Messrs. Rapp, Drach, and McLaughlin, were appointed delegates to the Convention of the American Institute. Mr. Samuel Hannaford read an interesting paper on "Contracts," which was followed by a general discussion.

Ingle & Almirall, architects, New York City, announce the termination of their partnership, December 31. John W. Ingle will open an office at 109 West 42d Street, and Raymond F. Almirall at 10 East 23d Street.

W. B. Ittner spoke before the St. Louis Architectural Club on the evening of December 8, subject, "The History of World's Fairs."

George Oakley Totten, Jr., addressed the Washington Architectural Club on the evening of December 8, subject, "Contrast Between the Chicago and Paris Expositions."

Theo. F. Laist lectured before the Washington Architectural Club on the evening of November 24, subject,



DETAIL, NORTHWESTERN TERRA-COTTA COMPANY, MAKERS.

"A Trip to the Paris Exposition." On the same evening a paper was read on "The Composition of Staff," by O. S. Simmons, superintendent in charge of United States Government Building at the Pan-American Exposition.

Guy Lowell, architect, delivered an address on "Landscape Architecture in this Country," before the Society of Arts, Boston, on the evening of December 13.

The Architectural League, of New York, will hold its Sixteenth Annual Exhibition in the Building of the American Fine Arts Society, 215 West 57th Street, from February 17 to March 9, inclusive, and in connection therewith the following information will be of interest:—

Last day for reception of exhibits Wednesday, February 6, 6 P. M. Press view, Friday, February 15, 9 A. M. to 4 P. M. Annual dinner, Friday, February 15, 7 P. M. League reception, Saturday, February 16, 8 P. M. Public



exhibition from Sunday, February 17, to Saturday, March 9, inclusive. Hours: 10 A. M. to 6 P. M., 8 P. M. to 10 A. M., Sundays, 12 M. to 6 P. M. Public lectures, Wednesdays, February 20, 27, and March 6. Pay days, all



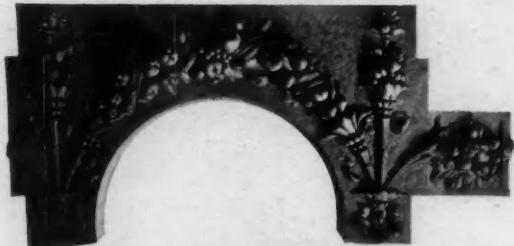
PILASTER, CAPITAL, GEORGE B. POST, ARCHITECT.  
Atlantic Terra-Cotta Company, makers.

Tuesdays and Thursdays; admission 25 cents. All other days free. Exhibits discharged Monday, March 11.

#### MISCELLANEOUS ITEMS.

Gustave B. Bohm, architect, has opened an office in the Williamson Building, Cleveland, Ohio. Manufacturers' catalogues and samples desired.

"Ironclay" bricks, made by The Columbus Face Brick Company, will be used in the new Power House



DETAIL, BY E. O. FALLIS, ARCHITECT.  
St. Louis Terra-Cotta Company, makers.

for the Manhattan Railway, New York City. This is said to be the largest power house in the world.

The new armory at Medford, Mass., Shepley, Rutan & Coolidge, architects, will be roofed with Celadon Roofing Tile; Charles Bacon, Boston agent.

Sayre & Fisher Company's brick will be used in the new building for the Central Wharf and Wet Dock Corporation, Boston, Peabody & Stearns, architects, and the new Huntington Chambers, Boston, A. H. Bowditch, architect. Charles Bacon, Boston agent.

The New Jersey Terra-Cotta Company has during the past few months completed the terra-cotta work on the following buildings: Paymaster's office, Navy Yard,



PANEL, BY FRED KEES, ARCHITECT.  
American Terra-Cotta & Ceramic Company, makers.

Brooklyn; apartment house, Lexington Avenue, New York, George F. Pelham, architect; residence, Newark, N. J., Carl T. Rehman, architect; four apartments, West 112th Street, New York, Charles Stegmayer, architect; apartments, Newark, N. J., Herman Kreidler, architect;



CAPITAL, BY G. L. MORSE, ARCHITECT.  
Excelsior Terra-Cotta Company, makers.

mercantile building, Broadway, New York, Clinton & Russell, architects; apartments, Livingston Place, New York, Michael Bernstein, architect; two apartment houses, West 71st Street, New York, Wm. H. Boylan, architect; apartment house, Lexington Avenue, New York, Charles Bradford Meyers, architect.

#### HARVARD BRICK.

SOME of the most delightful brick architecture left to us from the colonial period is represented by the older buildings of Harvard College, which date as far back as the latter part of the seventeenth century. The walls of these structures are in general laid up with the so-called Flemish bond. The quaint, texture-like appearance of these brick walls has pleased many architects, and led to the use of a rather simple form of selected common brick laid up with black headers for the bond. The buildings designed for use of this material were so generally satisfactory that in response to a demand for such material the brick-makers have been putting on the market for several years a form of brick known specifically as the "Harvard" brick, which is hard-burned, dark in color, with headers quite perceptibly darker than the



STATUE FOR ST. AUGUSTINE  
CHURCH, PITTSBURGH, PA.  
Rutan & Russell, Architects.  
Perth Amboy Terra-Cotta Company, makers.



CARLETON BUILDING, ST. LOUIS, MO.

Theodore C. Link, Architect.

First four stories terra-cotta and Roman size brick. Upper stories of impervious gray brick. Made by the Hydraulic-Press Brick Company.

body of the brick. Its manufacture since has been taken up by several of the companies which have lately joined to form the New England Brick Company, for whom Pfothenauer & Nesbit, St. James Building, New York, are the agents for New York, Connecticut, New Jersey, Pennsylvania, and Delaware. The brick has been used successfully by many architects throughout the country and rarely fails to prove satisfactory. The success of the Harvard brick lies in its peculiar rich red color, its character and great hardness, in addition to which as manufactured it is perfectly impervious.

#### ENAMELED BRICK TREATMENT OF SUBWAY CONSTRUCTION.

DRAINAGE OF SEEPAGE BRICK OF WALLS. PREVENTION OF DISCOLORATION OF ENAMELED FACING. BY J. FRANCIS BOORAEM, A. S. M. E.

BY far the most important use in large and heavy construction work for enameled brick is in that of subway construction. The work which has been done on the Boston Subway, till now the largest American subway, makes the review of two important studies of this work a subject of interest to engineers and architects.

One of these, and the most important — although not the largest — is the treatment of the Scollay Square Station, a conspicuous feature of which is the use of white enameled brick on its north and west walls. Especially is this interesting when compared with the badly stained interior surfaces of the general subway, where the discoloring is so conspicuous as to completely obliterate in some places all the white enamel paint and other finishes applied at various points beyond the stations, and about which so much criticism is being made.

The object of the treatment of this station with a

clean, bright, white, and light-reflecting enameled brick was to insure a permanent whiteness, and to prevent sweating, which the particular conditions there required. To this end it was sought, first, to drain the moisture collecting at the back of the brickwork as seepage; second, to allow a circulation of air back of brick to maintain uniform temperature on the face and back of the brick.

The drainage of the moisture which percolates through the walls of a subway is a subject to which the construction engineer has to give attention for more than one vital reason, and should be considered and treated as follows, so far as it relates to enameled brick lining. The most important fact to be realized is that this moisture which contains various salts in solution, if allowed to soak through backing or body of the brick, would in time appear, on account of evaporation, in a solid, crusted form of stains, which would seriously mar the finished look of the work at the joints, and also appear as discoloration behind the otherwise pure white face of the enamel.

To avoid this the manufacturer, the American Enameled Brick and Tile Company, New York, by use of a design which was approved of by the engineer of the subway, and on which the company subsequently secured



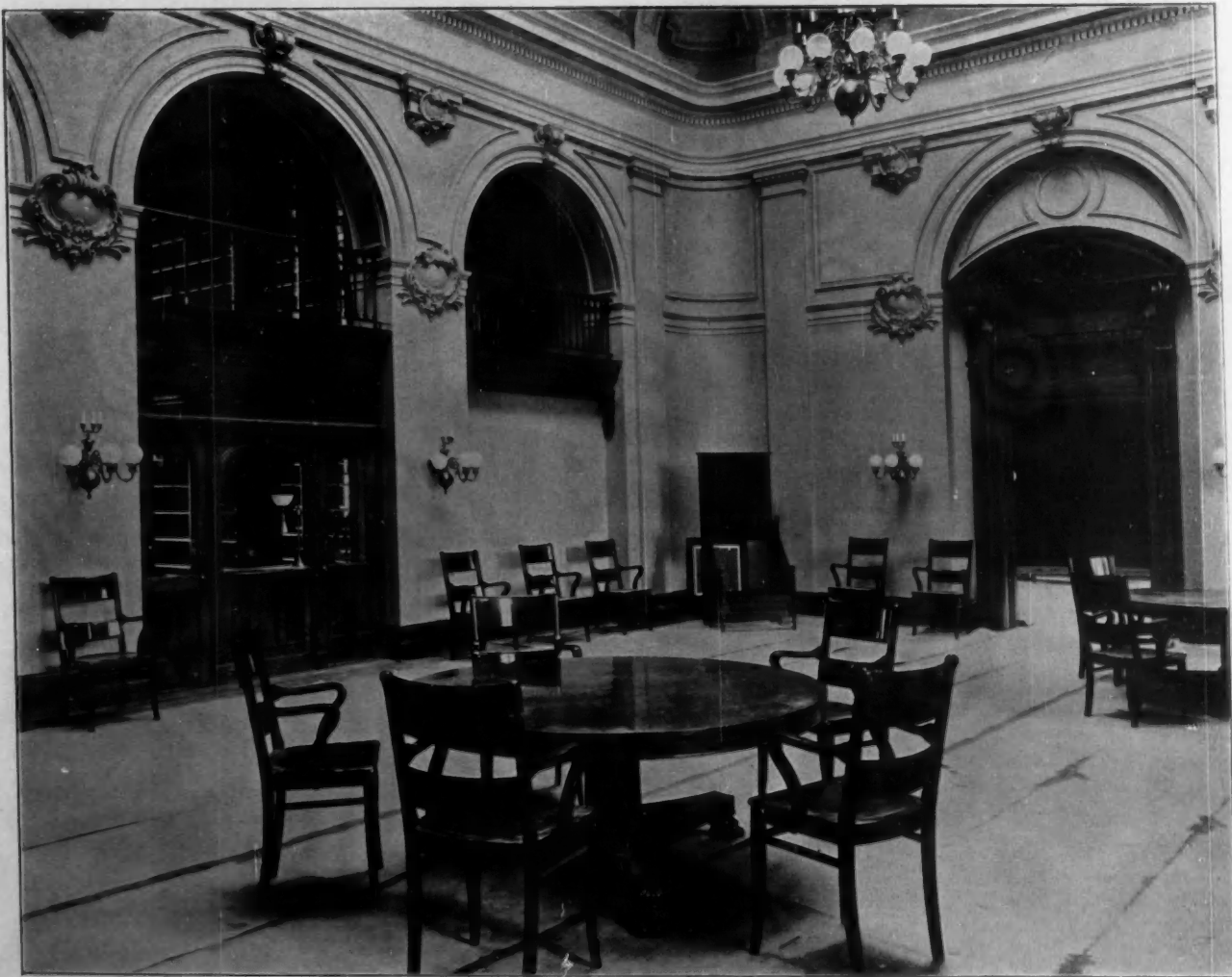
patents, succeeded in accomplishing the double purpose of draining this moisture away from the back of these enameled bricks so as to prevent its soaking through into the back of the enamel and destroying its whiteness as frequently happens, and further succeeded in making this part of the construction assist the other devices of the engineer to accomplish more fully the collection of moisture from the side walls of the tunnels, delivering it into the control of the artery-like system, already designed by him throughout the tunnel. To accomplish this purpose in other parts of the subway, the constructors were obliged to design an extraordinary system of drainage.

The prevention of sweating or condensation of moisture more or less naturally confined in the atmosphere of a subway, due to the rapid changes of temperature, or, to be more explicit, due to the fact that the air of tunnels in a falling temperature chills more rapidly than the body of the wall itself, had to be treated in a manner which would allow as free a circulation as possible with outside air, and still be consistent with the general construction design of the tunnel, and further admit of economy of space.

The same design which accomplished the *drainage of moisture* also gave free circulation of air behind the face of the enameled brick wall, and that, too, without the expense of setting hollow brick partitions behind the enameled brick, which, if used, could only have been done by narrowing the available space in the tunnel. The value of the work in fulfilling these important conditions can only be fully realized by study of the actual conditions met.

The designs and methods employed are controlled by the Company which executed the work under United States patents, held in the writer's name for the protection of their trade in subway work.





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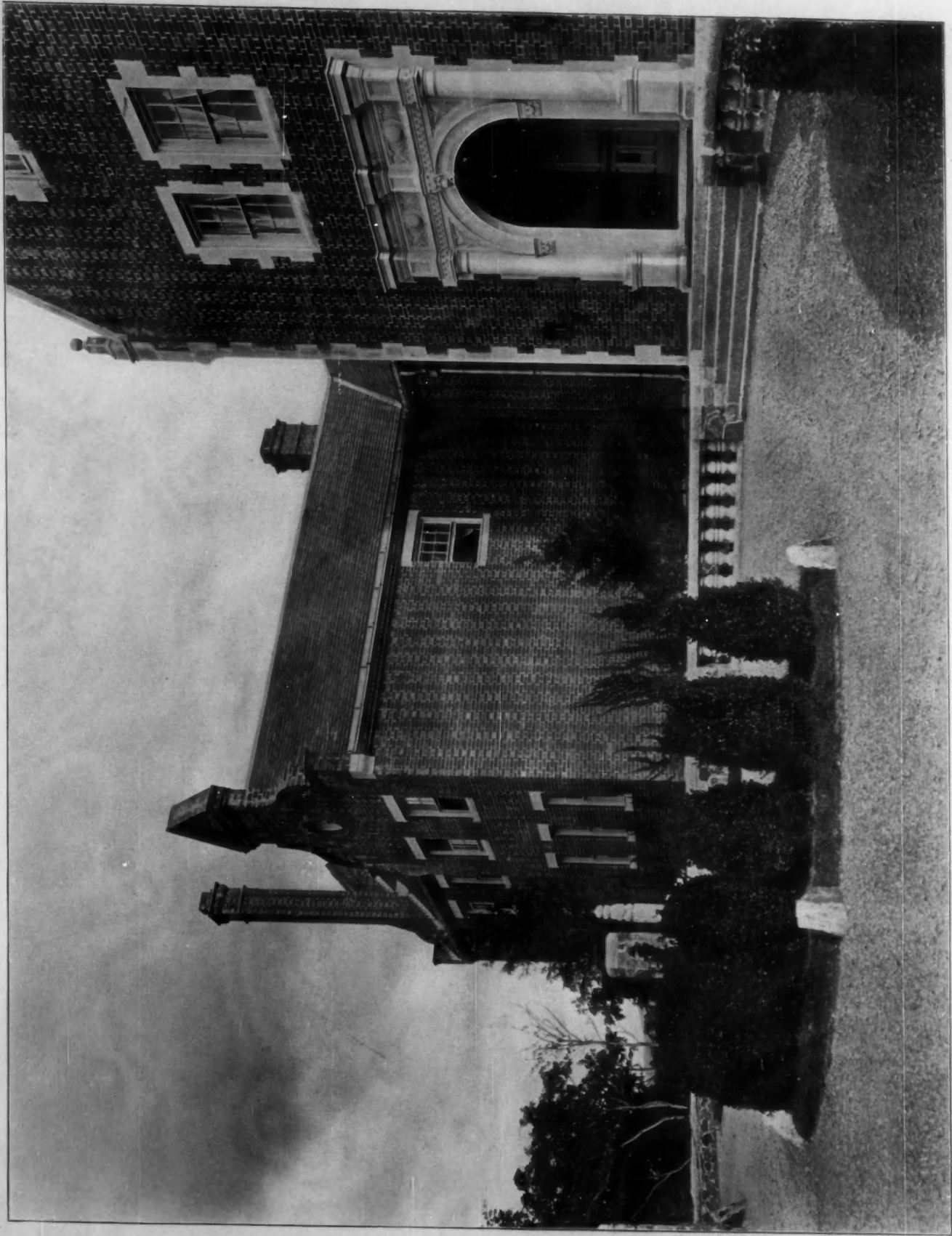


CHURCH, BILTMORE, N. C.  
R. H. HUNT, ARCHITECT.



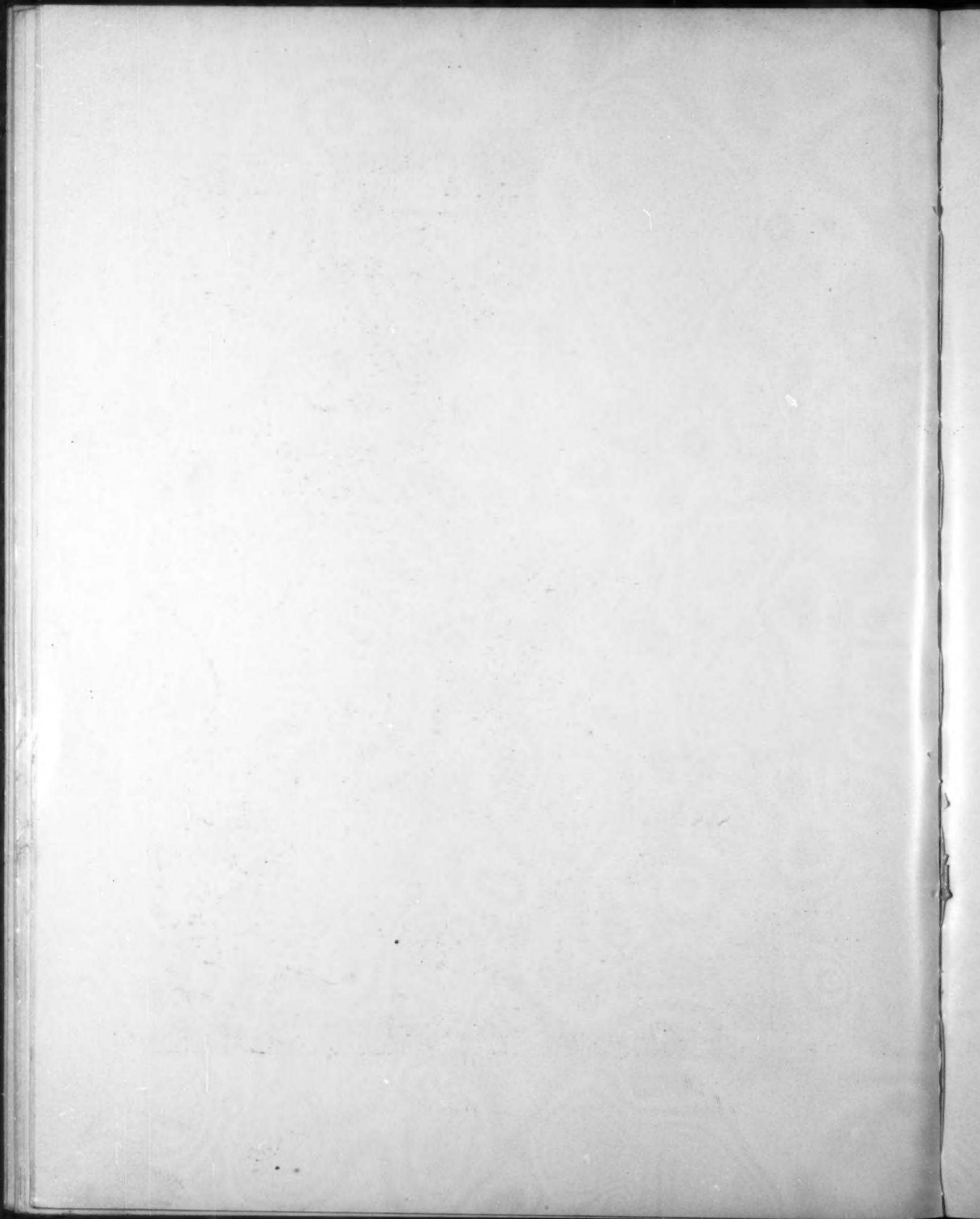




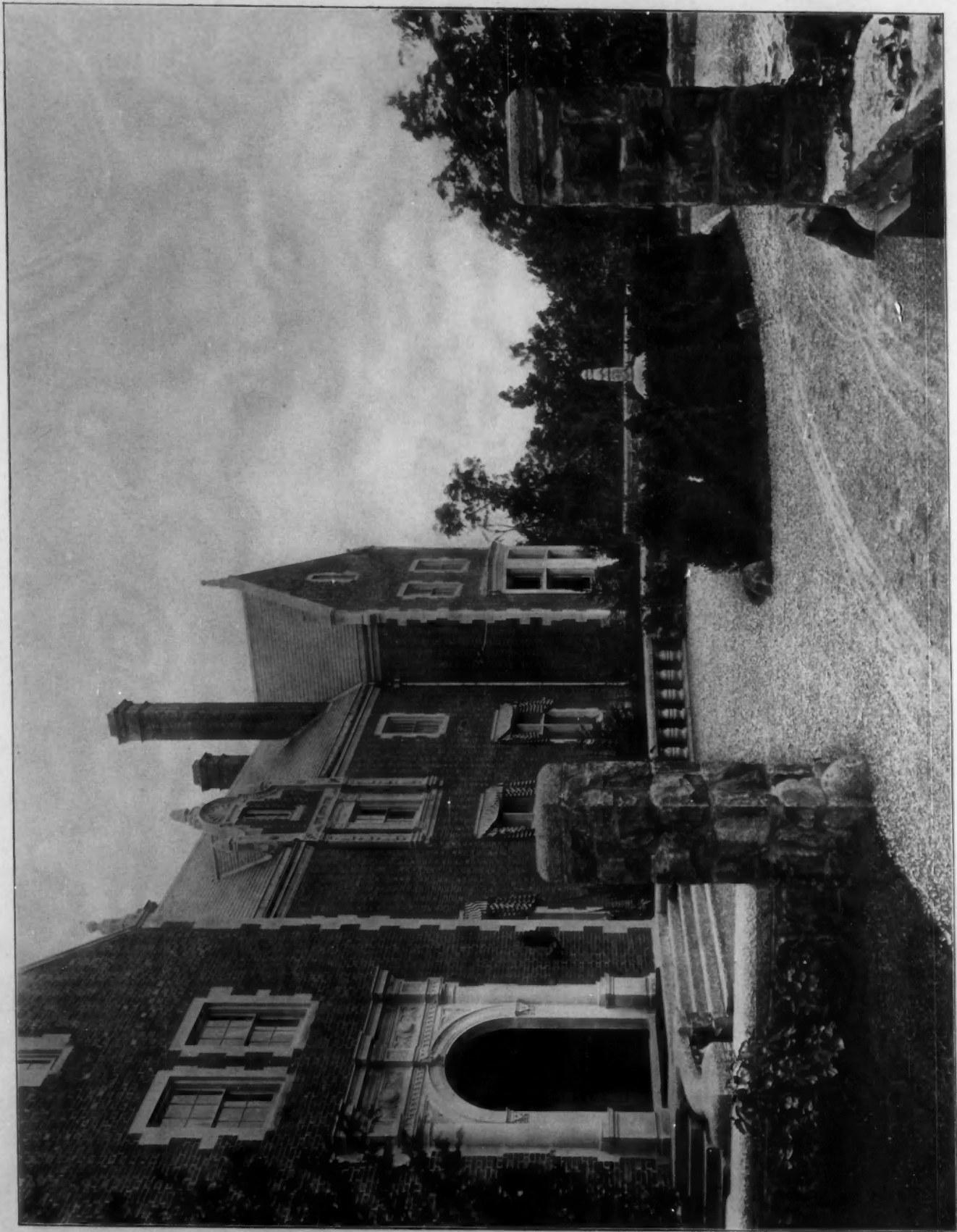


HOUSE AT TUXEDO PARK, NEW YORK.  
R. CLIPSTON STURGIS, ARCHITECT.

THE BRICKBUILDER,  
DECEMBER,  
1900.







HOUSE AT TUXEDO PARK, NEW YORK.  
R. CLIPSTON STURGIS, ARCHITECT.

THE BRICKBUILDER,  
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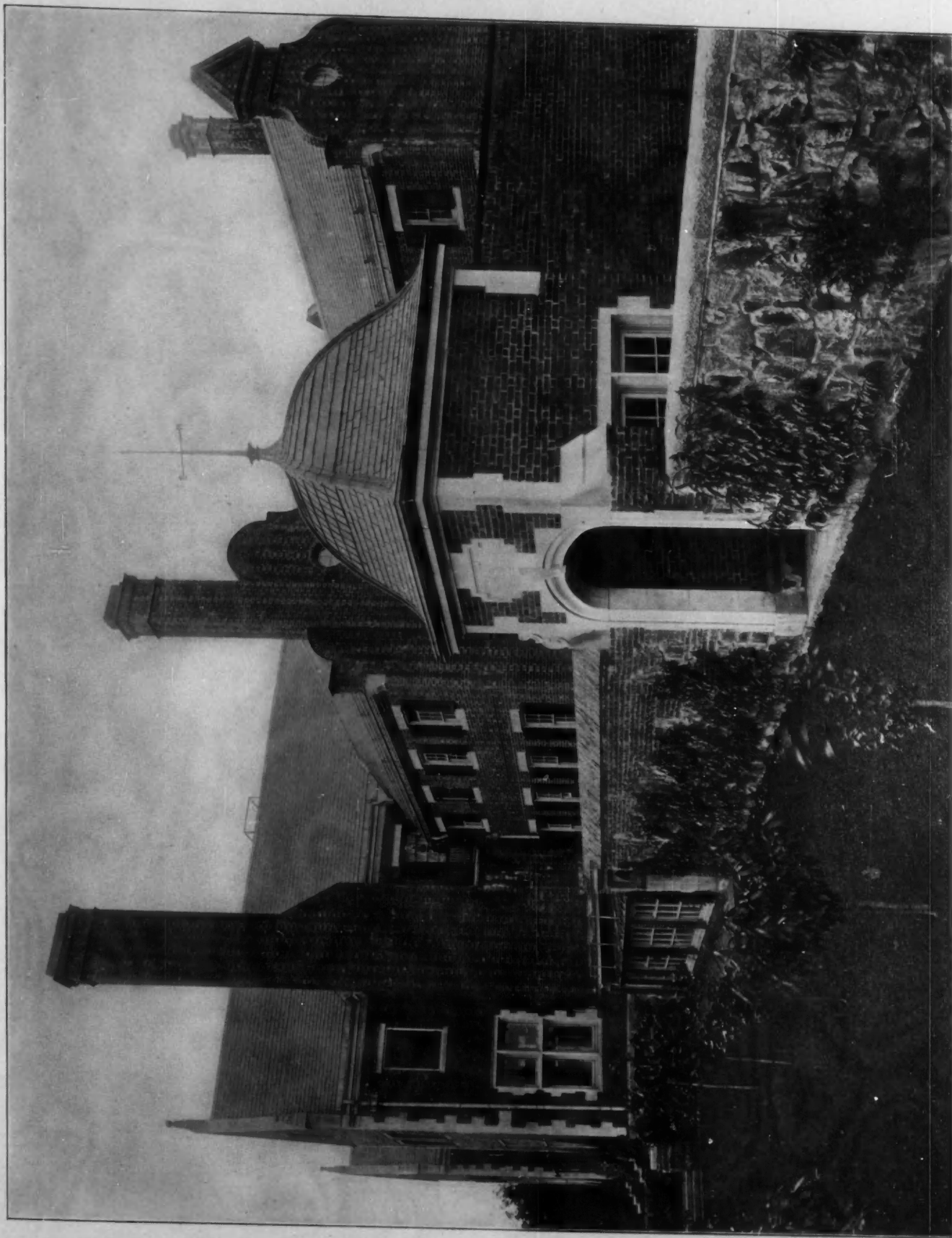


✓ HOUSE FOR WINSTON CHURCHILL, MONTPELIER, VT.  
CHARLES A. PLATT, ARCHITECT.

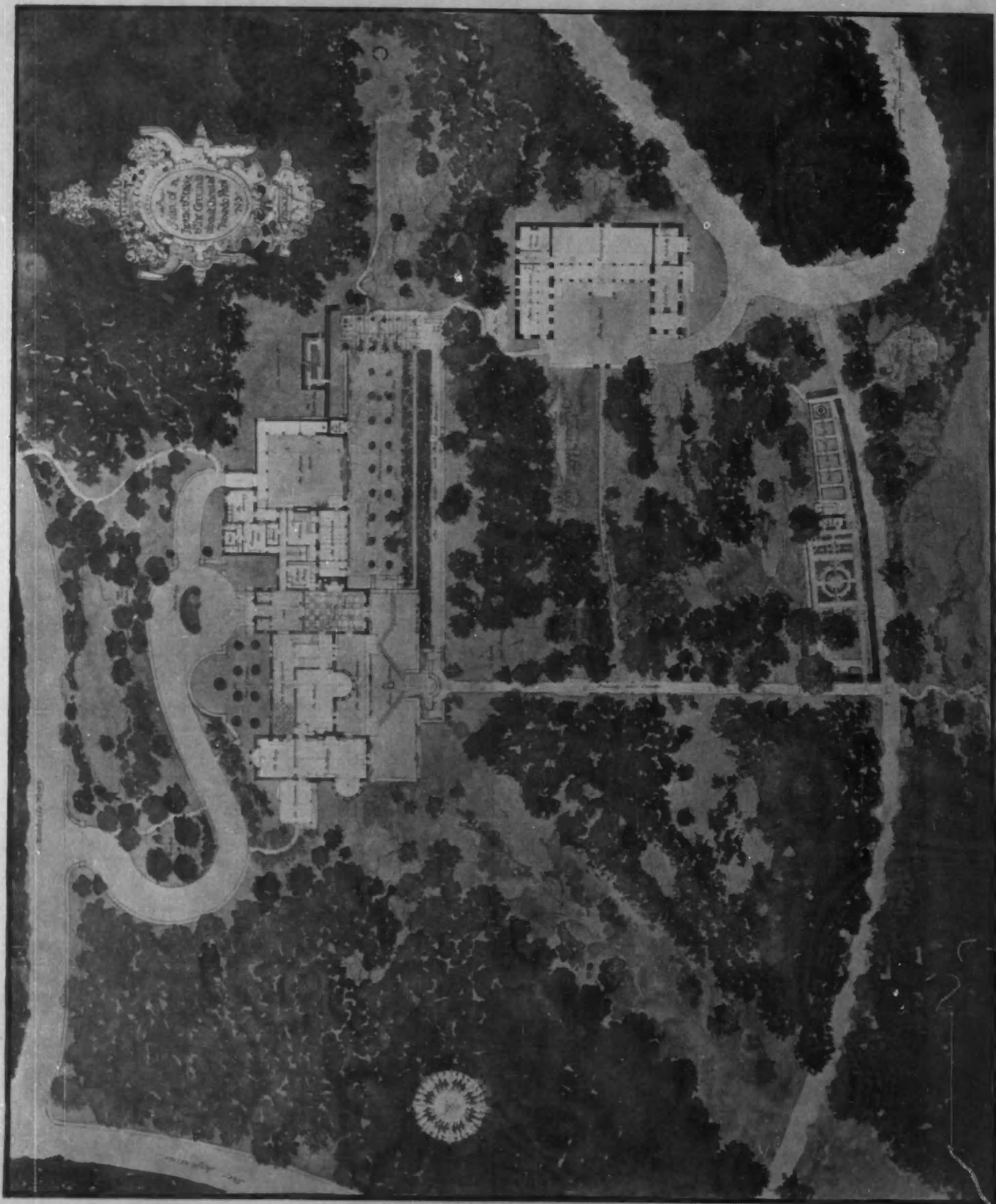








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R. CLIPSTON STURGIS, ARCHITECT.

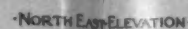
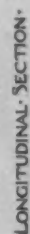


GROUND PLAN, HOUSE AT TUXEDO PARK, NEW YORK.  
R. CLIPSTON STURGIS, ARCHITECT.

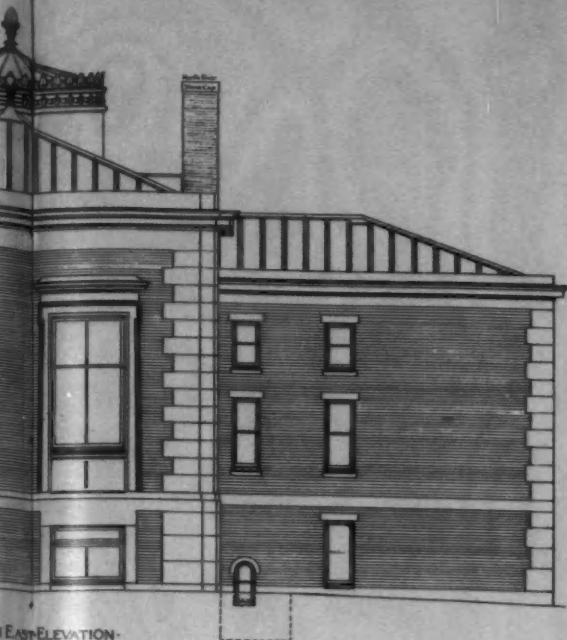




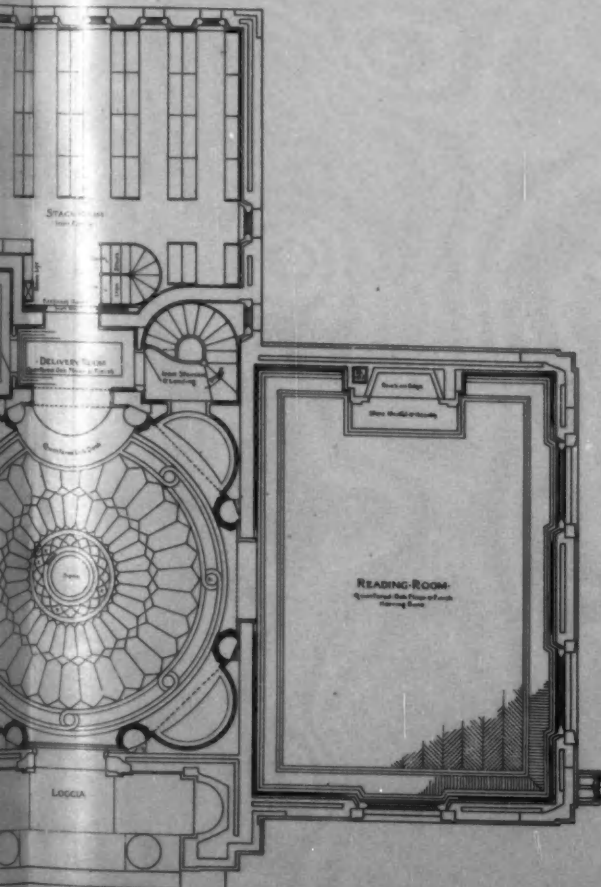




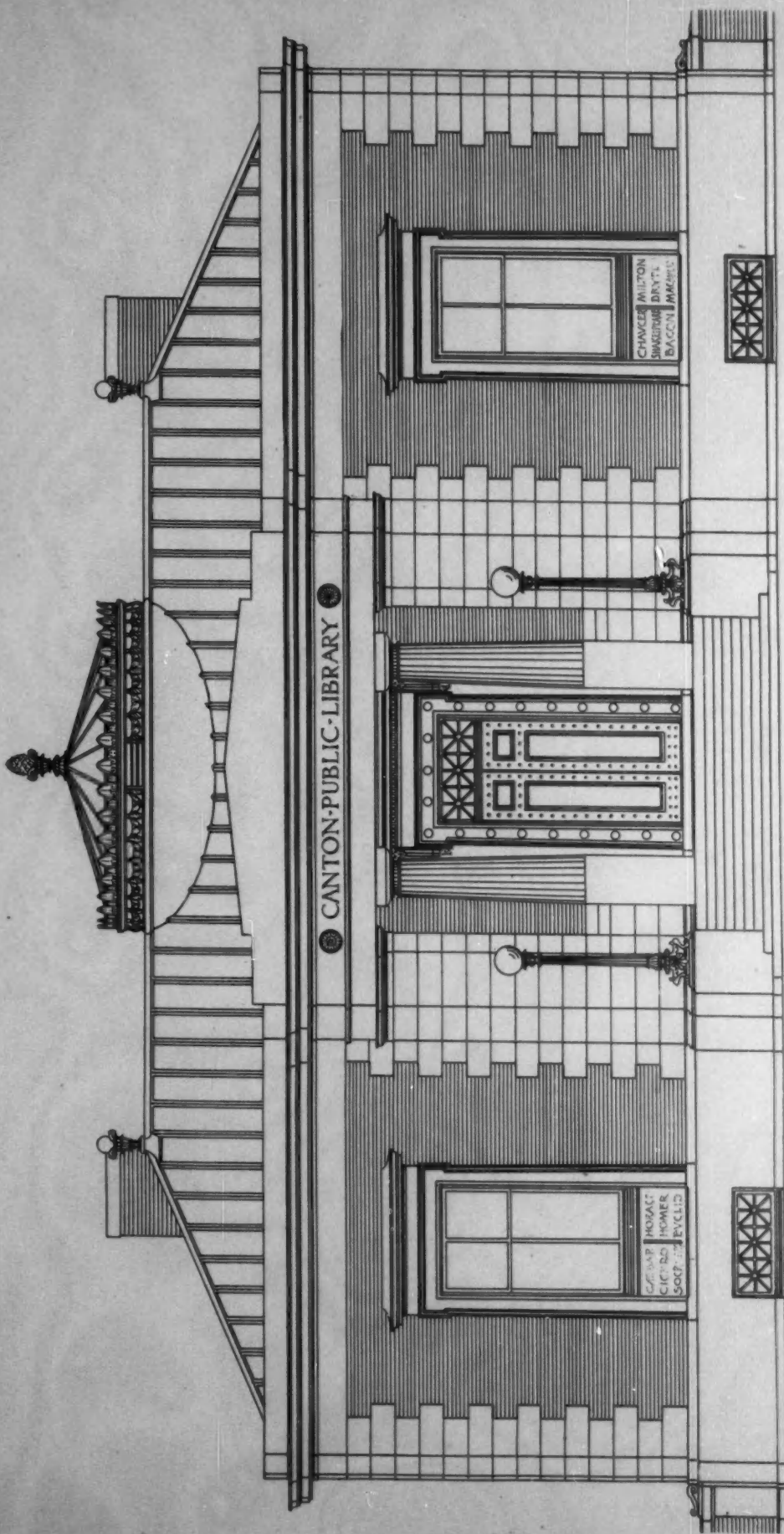




EAST ELEVATION.

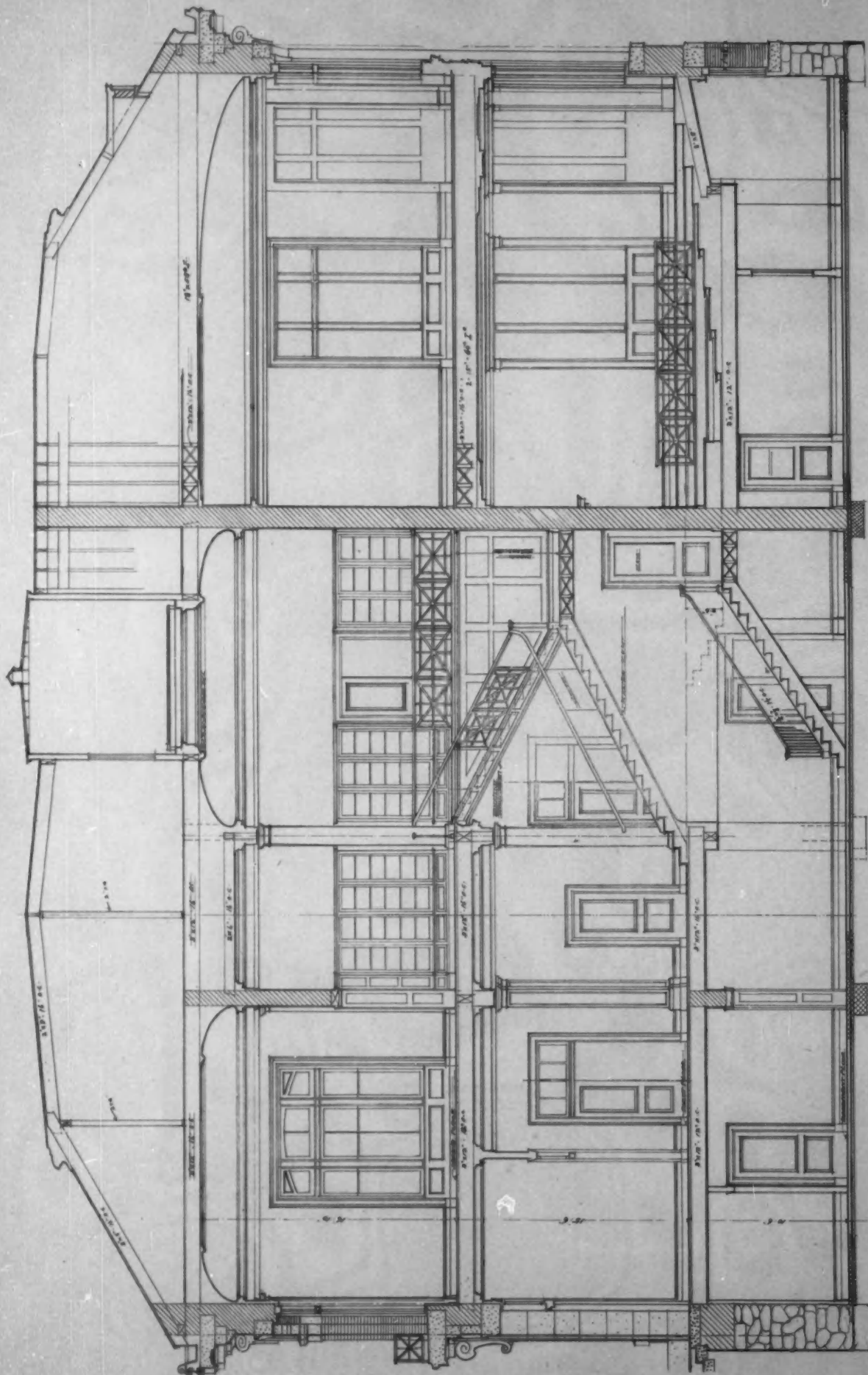


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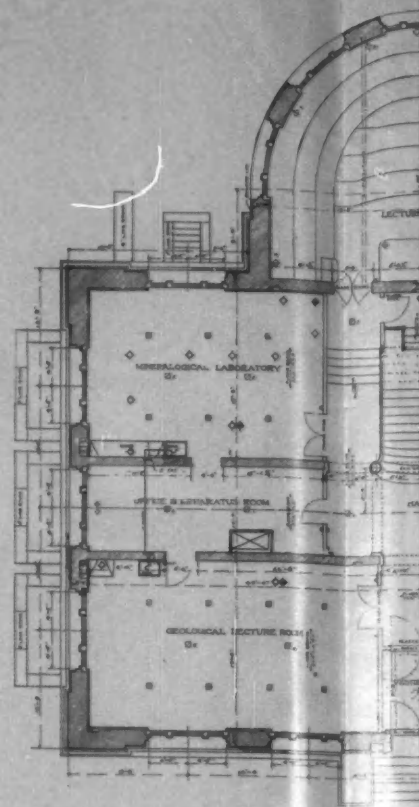


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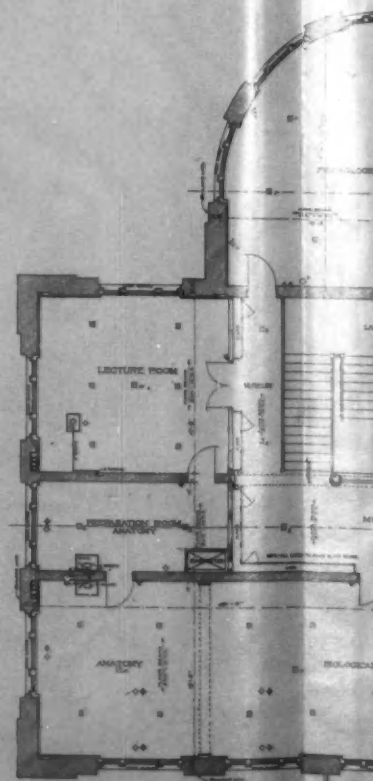




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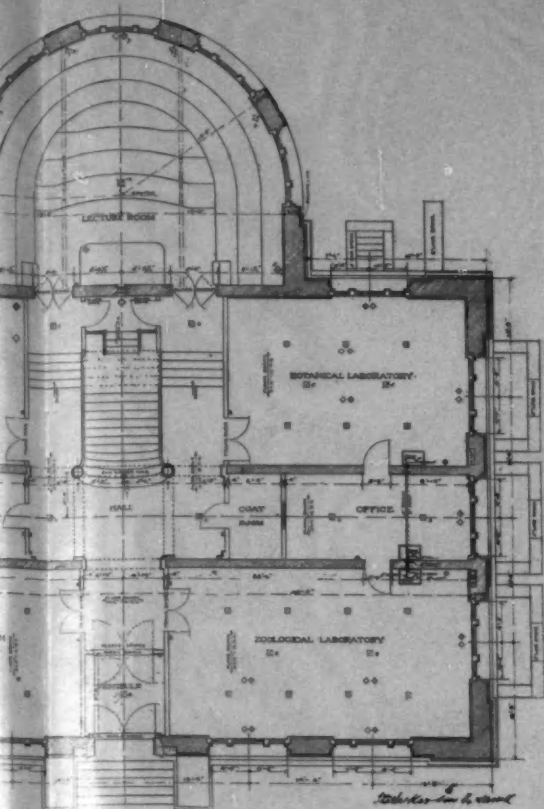


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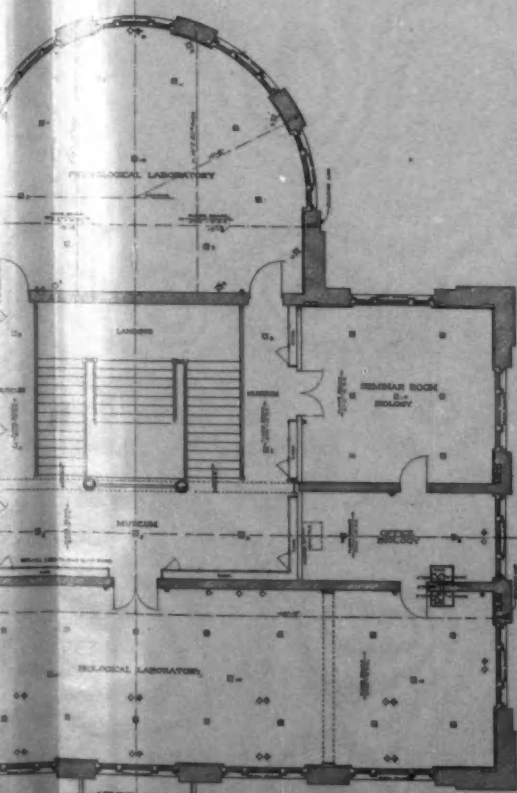


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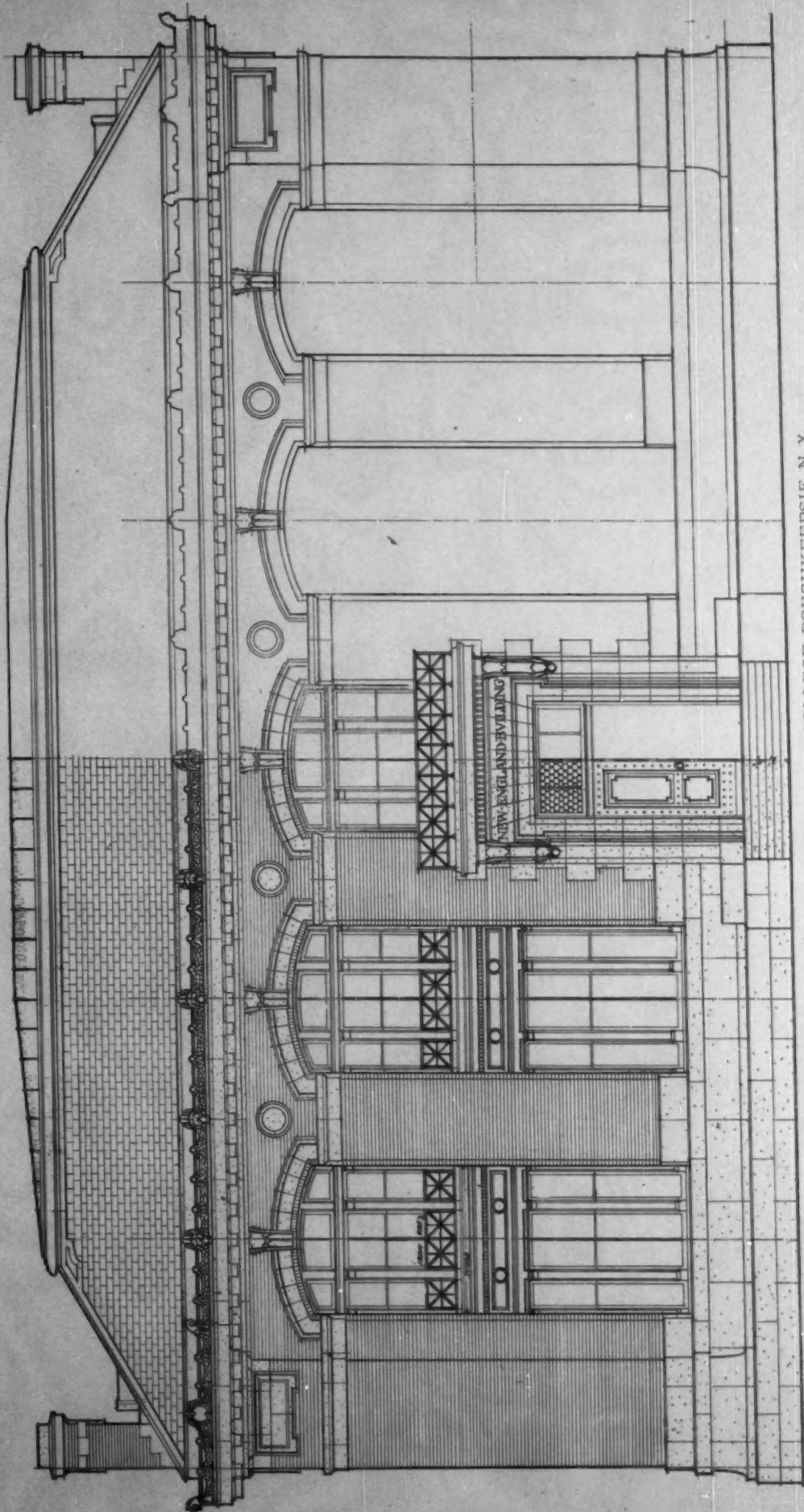




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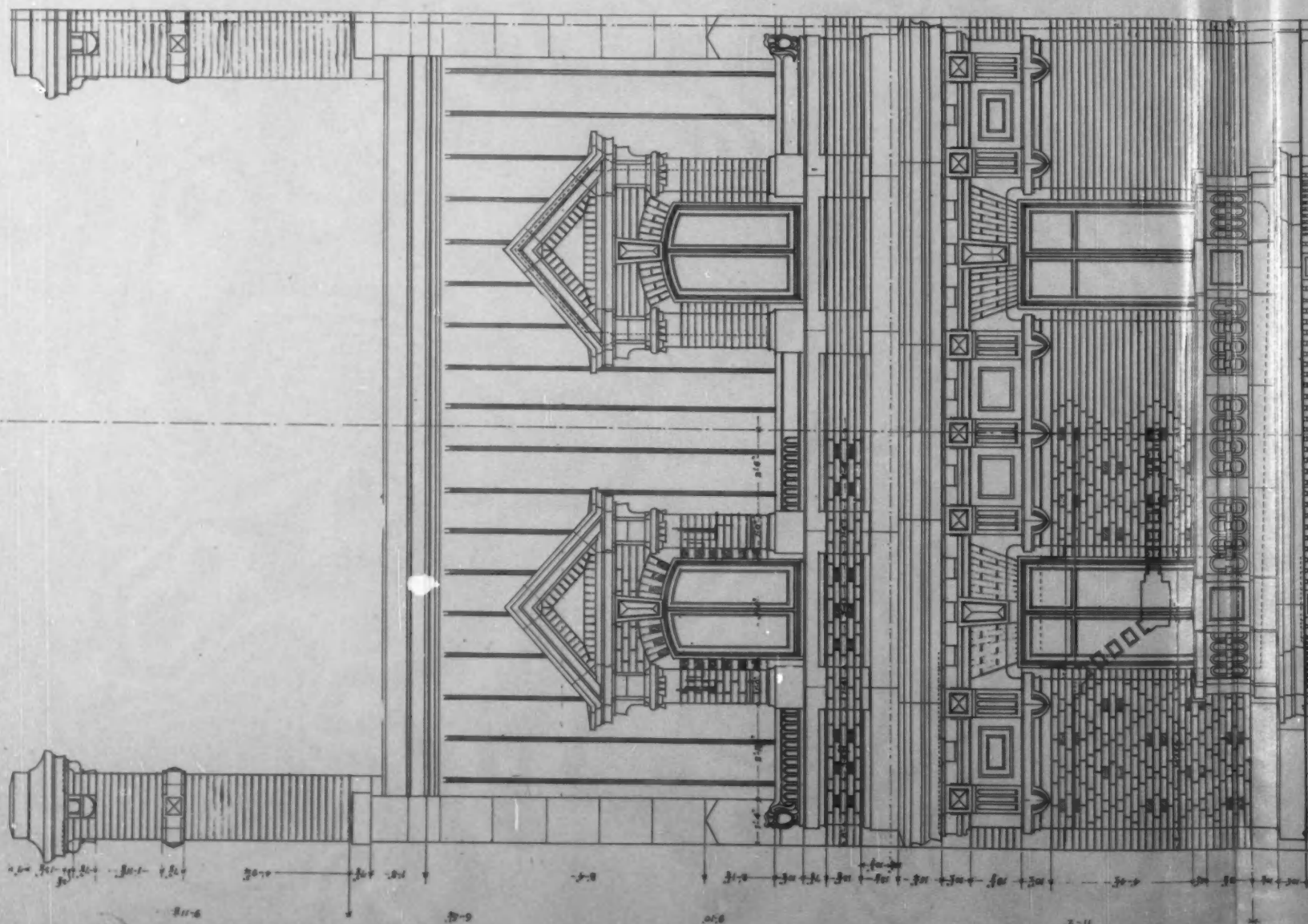
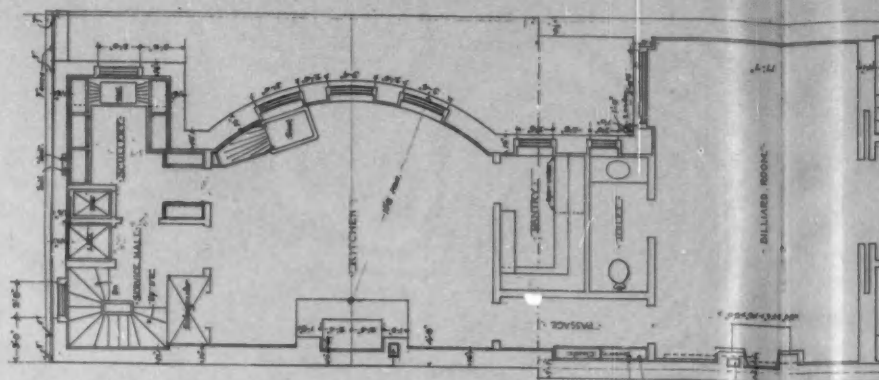
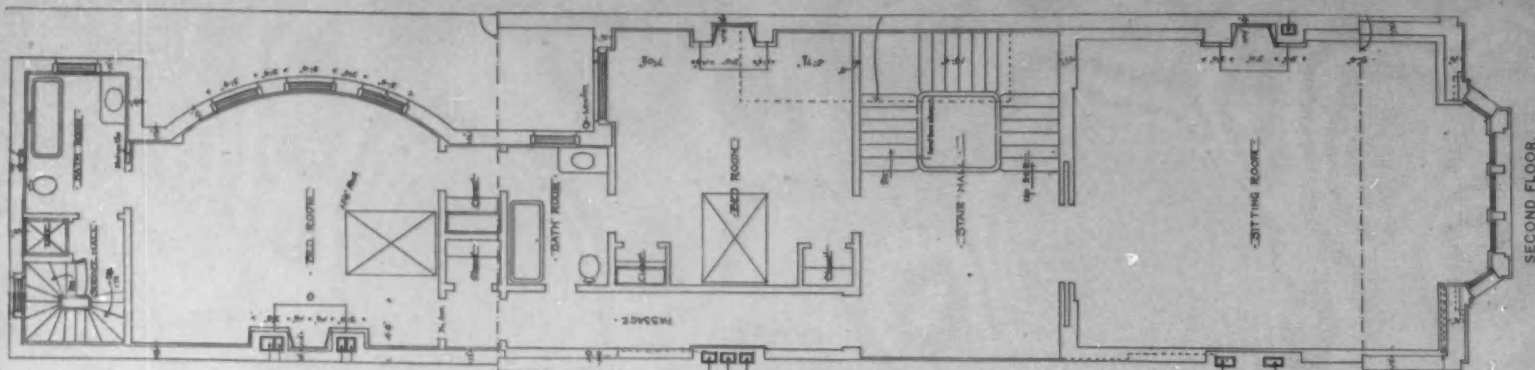
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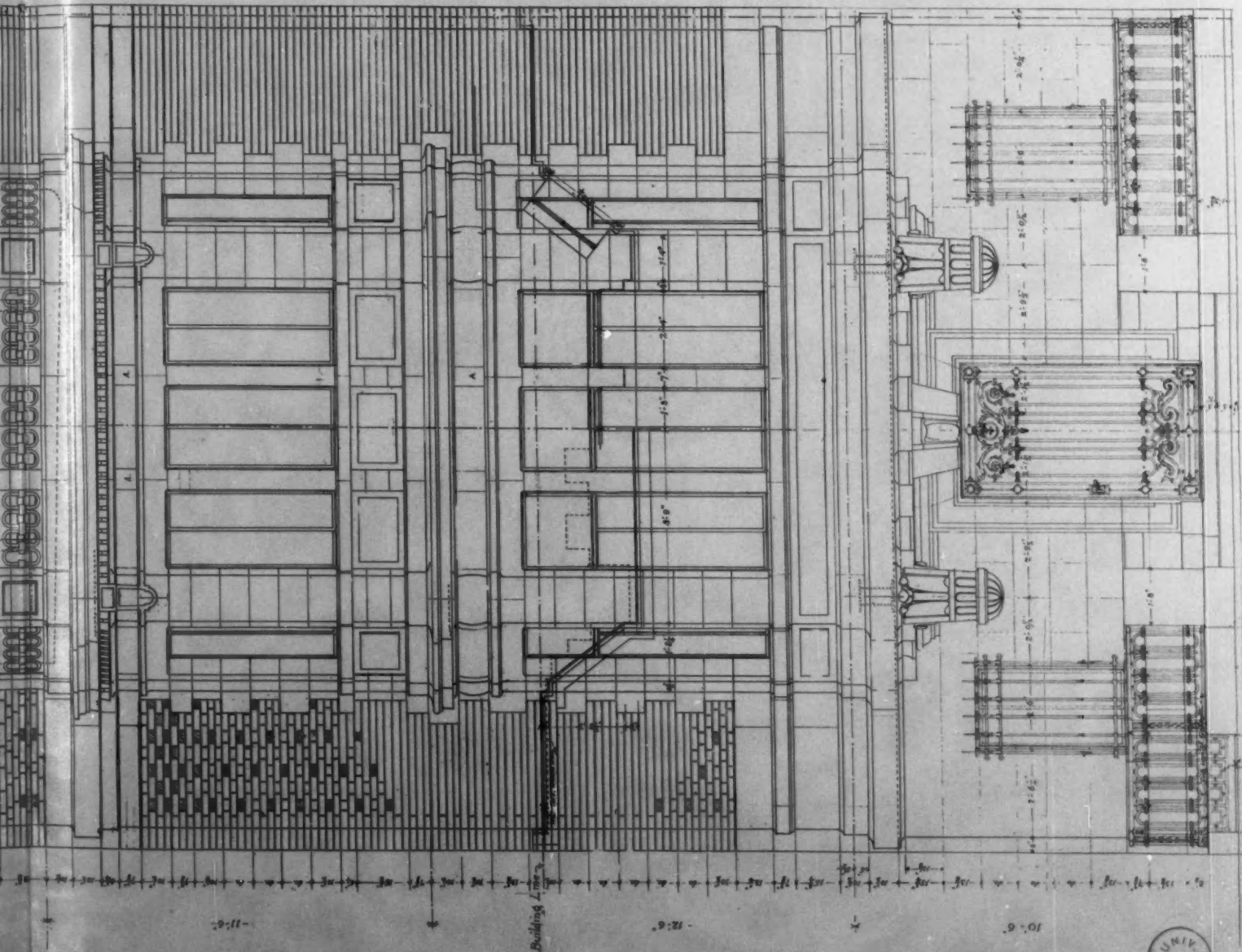
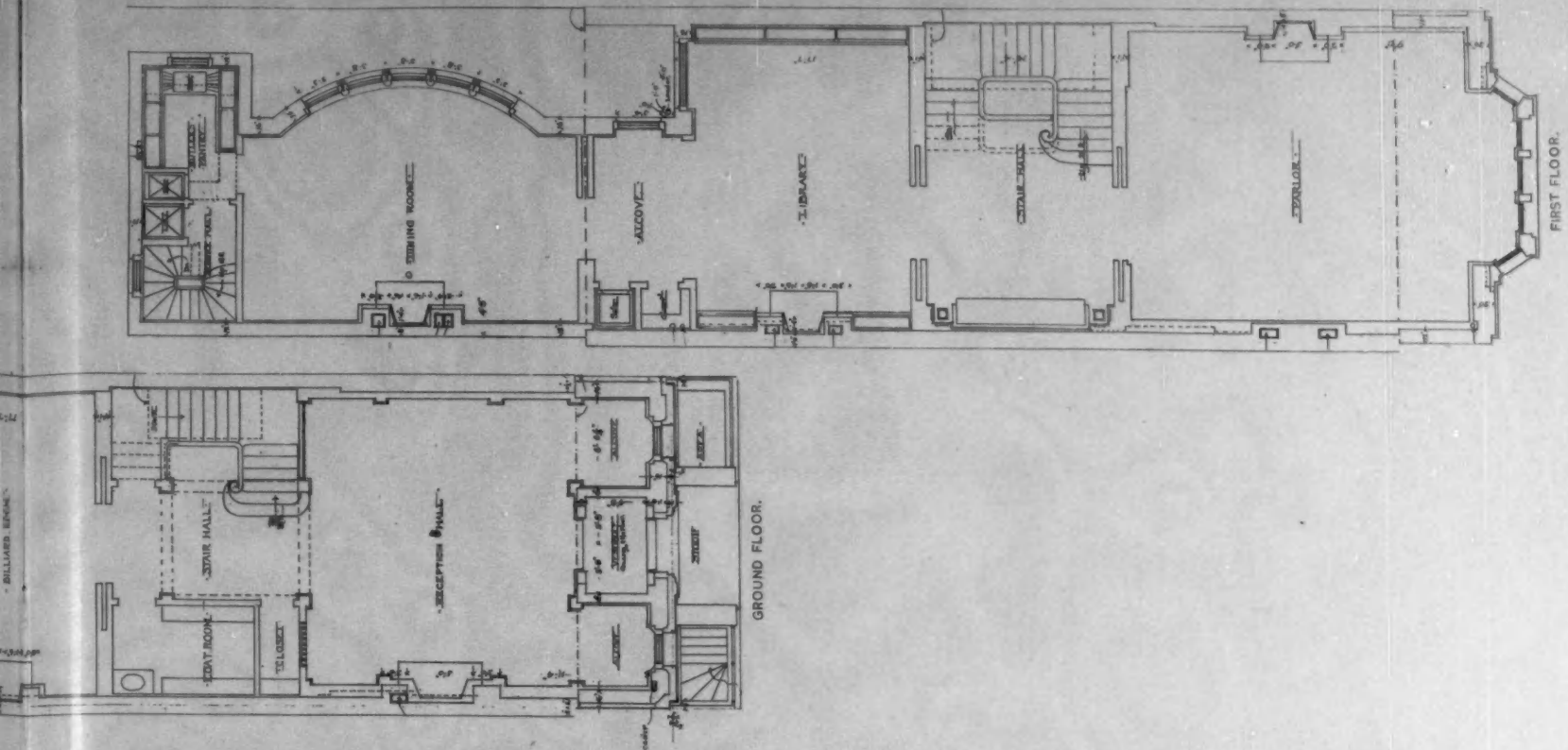
NEW ENGLAND BUILDING, VASSAR COLLEGE, POUGHKEEPSIE, N. Y.  
YORK & SAWYER, ARCHITECTS.



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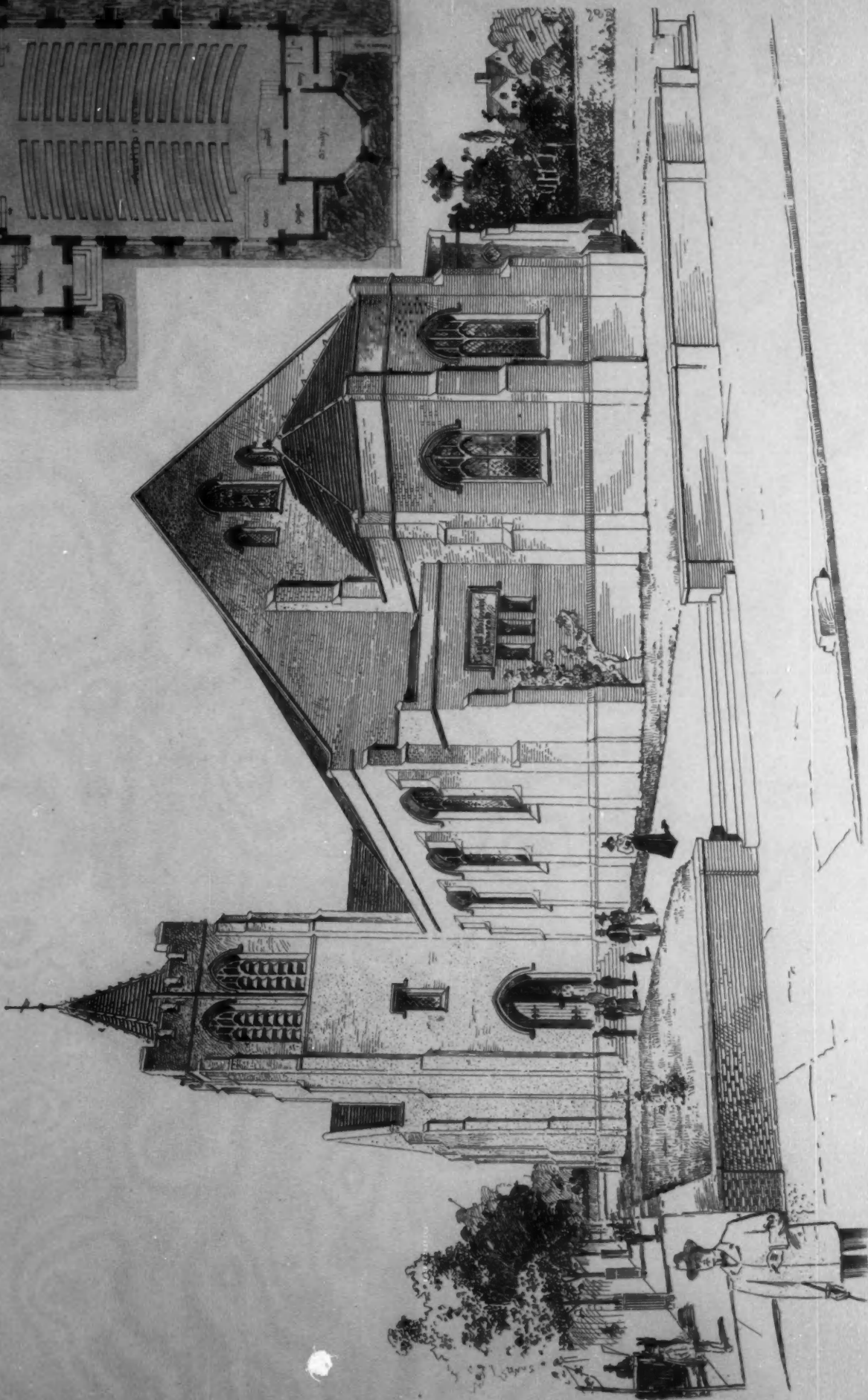
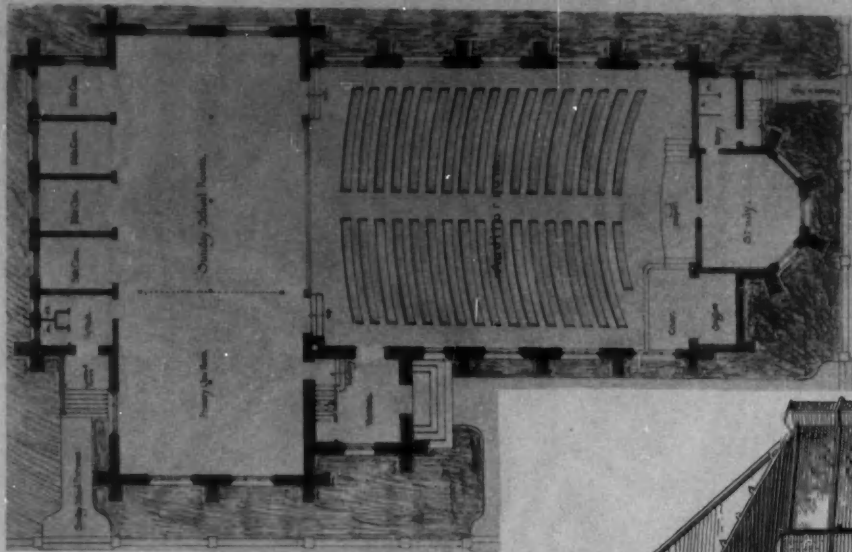


HOUSE, NO. 8 EAST 75TH STREET, NEW YORK CITY.  
LORD, HEWLETT & HULL, ARCHITECTS.





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CHURCH AT MANCHESTER, VA.  
NOLAND & BASKERVILLE, ARCHITECTS.

